

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-F-019-2(27)     | 1987        | 31        | 134          |

### Gas Notes:

- 1) Use High Density Polyethylene Plastic Piping Material Designation PE 3406 Or PE 3408 Conforming to ASTM D2513.
- 2) Use Heat Fused or Approved Mechanical Joints Installed By Qualified Personnel In Accordance With Section 192.285 Of The Code Of Federal Regulations.
- 3) Install Number 12 Insulated Copper Tracer Wire Approximately 6 Inches Above Plastic Pipe.
- 4) Pipe To Be Installed By Gas Company.

### Water Note:

1. Polyethylene Loose Wrap Corrosion Protection of New Waterlines And Appurtenances Installed Shall Be Provided

\$ Sta. 28+38  
o/s = 34.0 ± Rt.  
1-12" X 6 Tee  
1-6" G.V. & Valve Box  
140 L.F. 6" Pipe  
1-6" X 4 Reducer  
1-6" Tee  
1-FH Connection Per Water System Standards Det. No. 28  
1-6" Cap Tapped 2" IPT  
1-2" Cleanout Unit

1-METER BOX PER STD Detail No "46" & "47"  
Connect to Exist. Customer Line, Contractor to Coordinate With State D.O.T., Harbors Division.  
1-2" Type "A" Service Lateral Per Std. Det. No. 75.  
1-6" X 1 1/2" Double Strap Service Saddle  
1-Conc. Blk.

\$ Sta. 25+50 ±  
o/s = 34 ± Rt.  
1-12" Solid Body Sleeve  
\$ Sta. 0+00  
Access Rd.  
\$ Sta. 60+03  
Hawaii Belt Rd.

\$ Sta. 25+38 ±  
o/s = 32 ± Rt.  
1-12" X 12" Wye w/ Retainer Gland  
1-12" Solid Body Sleeve w/ Ret. Gl.  
(Wye To Be Plugged When Existing 12" W.L. Is Cut off)  
\$ Hawaii Belt Rd. = G.C.L.

\$ Sta. 28+77  
o/s = 62.5 ± Rt.  
Construct New SMH #1A, Type "F"  
Over Exist. 15" Sewerline  
Cut And Abandon Line  
As Shown See

\$ Sta. 29+72.5  
o/s = 92 ± Lt.  
Construct New SMH #1B, Type "F" (C.C.O. #54 1st Supp.)

\$ Sta. 28+55 ±  
o/s = 67 ± Lt.  
1-Meter Box  
15" Gate Valve  
\$ Sta. 28+38  
o/s = 31 ± Rt.  
2-6" Solid Body Sleeves (3' Apart)

TRUE NORTH  
Scale: 1" = 40'

Wailoa River Moorage Basin

New Harbor Comfort Station Facility

For Gas Location See Detail Sheet J4

\$ Sta. 28+49  
o/s = 45 ± Rt.  
1-2" Gas Service Lateral Connect to Exist. Gas Meter

\$ WL Sta. 3+16 - 4" WL Sta. 0+00 o/s = 45 ± Rt.  
1-6" Tee  
1-6" X 4" Reducer  
1-FH Connection Per Water System Std. Detail No. 28-30  
1-6" Nipple  
1-Conc. Blk.

Hilo Iron Works  
4" WL Sta. 0+46  
1-1 1/4" Type "A" Service Lateral Connect to Exist. Customer Line  
4" WL Sta. 0+59  
1-4" Cap Tapped 2" IPT w/ Retainer Gland  
1-2" Cleanout Unit

\$ Sta. 26+46  
o/s = 57 ± Rt.  
4" Gas In 6" Steel Casing Through Coping  
6" WL Sta. 0+46  
1-6" X 1/4" Bend  
1-Conc. Blk.

6" WL Sta. 0+55  
1-FH Connection Per Water System Std. Detail No. 30

6" WL Sta. 2+99 ±  
Sta. 3+37 & 0+28  
10 L.F. Conc. Jacket  
6" WL Sta. 2+85 ±  
Conc. Jacket Over 6" Pili Pipe & Under 6" Concrete Drain Pipe.

\$ Sta. 26+31.6  
o/s = 50 ± Rt.  
Gas Inc. Shall Connect to Exist. 4" Gas, Provide Trench and Backfill.  
6" WL Sta. 0+16  
10 L.F. Conc. Jacket

6" WL Sta. 0+30  
10 L.F. Conc. Jacket

\$ Sta. 25+40 ±  
o/s = 64 ± Rt.  
Adjust SMH Frame & Cover

\$ Sta. 25+35 ±  
o/s = 30 ± Rt.  
Conn. to Exist. 12" W.L. Remove & Salvage Exist. 12" Bend  
1-12" Solid Body Sleeve

\$ Sta. 25+20 ±  
o/s = 30 ± Rt.  
1-12" X 6" Tee (M.J.)  
1-12" B.F.V.  
1-6" G.V.  
1-Conc. Blk.  
2-Valve Boxes

\$ Sta. 23+32 ±  
o/s = 5 ± Rt.  
Adjust WVB Frame & Cover

\$ Sta. 23+15 ±  
o/s = 25 ± Rt.  
Adjust SMH Frame & Cover  
\$ Sta. 23+30 (±)  
o/s 4' Lt.  
1-12" Butterfly Water Valve  
1-Valve Box

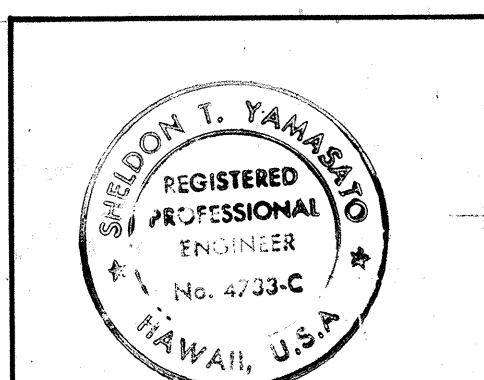
\$ Kam Ave. Sta. 19+50 to Sta. 26+20  
Remove Existing 6" C.I. Pipe. Install & Lower New 6" D.I. Pipe, Class 52 (C.C.O. #68)

\$ Sta. 20+69  
o/s = 15 ± Rt.  
Adjust SMH Frame and Cover (C.C.O. #67)

\$ Sta. 20+00 to Sta. 25+50 ± Rt.  
Abandon in place 550 ± L.F. of Existing 12" C.I. Waterline.

APPROVED  
CHIEF, WASTEWATER & SOLID WASTE DIVISION  
MANAGER, DEPARTMENT OF WATER SUPPLY  
GASCO, INC.

PLAN



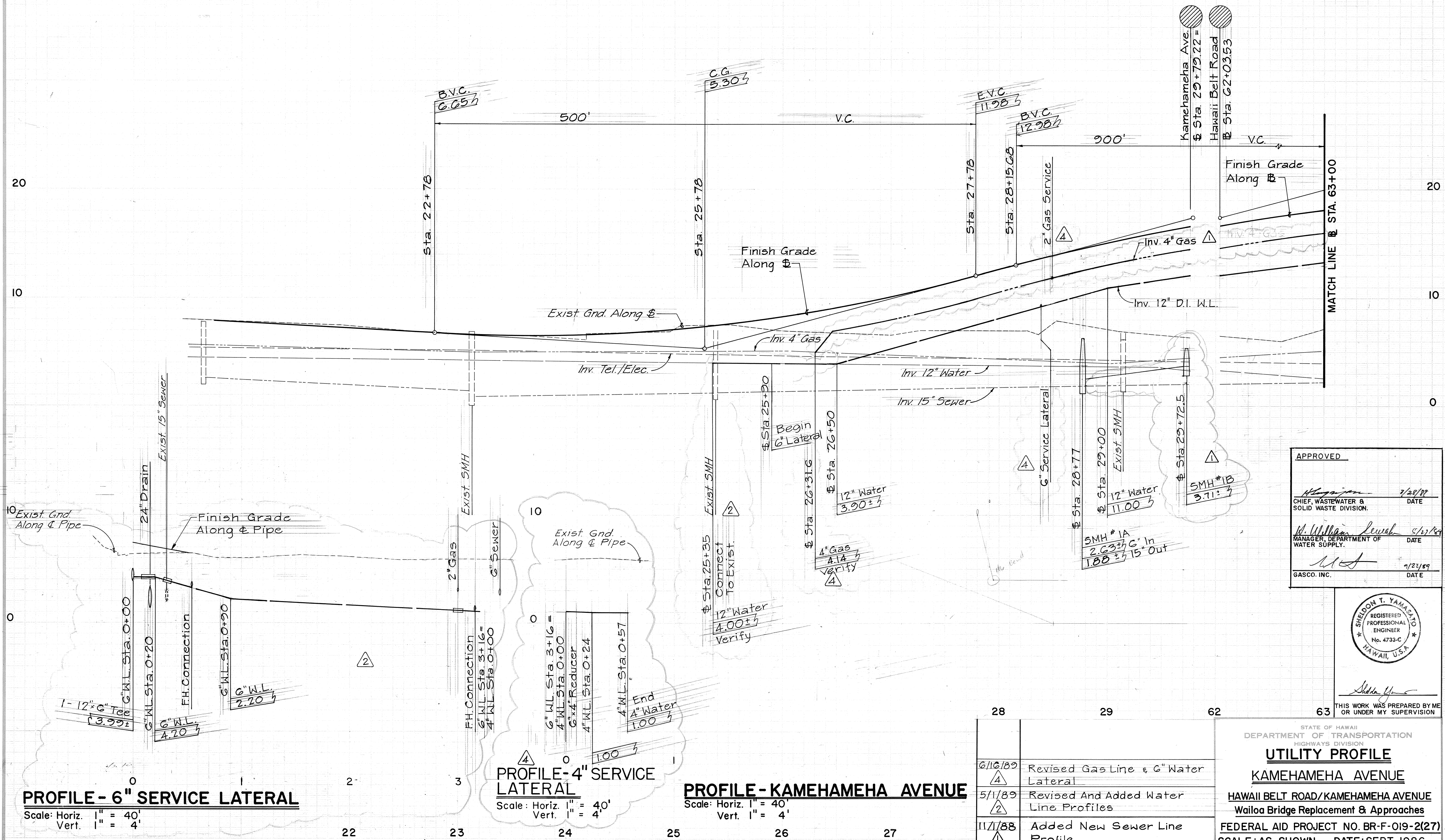
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**UTILITY PLAN**  
B. STA. 52+10.91 TO 63+00  
HAWAII BELT ROAD/KAMEHAMEHA AVENUE  
Wailoa Bridge Replacement And Approaches  
FEDERAL AID PROJECT NO. BR-F-019-2(27)  
SCALE: AS NOTED DATE: SEPT., 1986  
SHEET NO. 31 OF 8 SHEETS

| DATE    | REVISION                                                                                                                                                  |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6/16/89 | Revised Water Line & Added Gas Notes                                                                                                                      |
| 5/11/89 | Revised Water Line                                                                                                                                        |
| 11/1/88 | Relocated Gas line, Added New location of Harbor Comfort Station Facility, Added Sewer and Revised Water line size to New Harbor Comfort Station Facility |

C.O. 31

| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | BR-F-019-2(27)        | 1987           | 32           | 134             |



|      |          |    |                                                                              |                                                         |
|------|----------|----|------------------------------------------------------------------------------|---------------------------------------------------------|
| 28   | 29       | 62 | 63                                                                           | THIS WORK WAS PREPARED BY ME<br>OR UNDER MY SUPERVISION |
|      |          |    | STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION         |                                                         |
|      |          |    | <u>UTILITY PROFILE</u>                                                       |                                                         |
|      |          |    | <u>KAMEHAMEHA AVENUE</u>                                                     |                                                         |
|      |          |    | HAWAII BELT ROAD/KAMEHAMEHA AVENUE<br>Wailoa Bridge Replacement & Approaches |                                                         |
|      |          |    | FEDERAL AID PROJECT NO. BR-F-019-2(27)                                       |                                                         |
|      |          |    | SCALE: AS SHOWN DATE: SEPT, 1986                                             |                                                         |
| DATE | REVISION |    | SHEET No. J2 OF 8 SHEETS                                                     |                                                         |

C.O. 32

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-F-019-2(27)     | 1987        | 33        | 134          |

TRUE NORTH  
Scale: 1" = 40'

Sta. 64+90±  
O/S = 38.67' Rt.  
1- C & C Type "DB" Frame  
1- Water Manhole Cover  
See Detail On Sheet 91  
Wailoa River  
Moorage Basin

Sta. 67+70±  
O/S = 31' Lt.  
Cut & Plug Exist. 30" No. 3

Sta. 67+77  
O/S = 31' Lt.  
Connect to Exist.  
30" S.F.M.  
1- 30" 1/8 Bend  
1- Conc. Blk.  
See A  
J3 JB

Sta. 71+90±  
O/S = 12' Rt.  
Adjust 3-WVB  
Frame & Cover

Sta. 71+96  
O/S = 12' Rt.  
Adjust GMH  
Frame & Cover

Sta. 72+18  
Remove Exist.  
Fire Hydrant Unit

Sta. 63+80  
O/S = 35' Rt.  
4" Gas In 6"  
Steel Casing  
Through Coping

Sta. 63+90  
O/S = 38.67' Rt.  
1- 12" B.F.V.  
1- Valve Box

Sta. 65+90  
O/S = 44.25' Rt.  
1- Ball Valve  
1- Valve Box

Sta. 66+58.75  
O/S = 38.67' Rt.  
1- 12" x 12" Gross M.J.  
5- 12" Nipples (24" Long)  
3- 12" B.F.V. (M.J.)  
1- 8" G.V. (M.J.) CL 250  
1- 12" x 8" Reducer M.J.  
1- Conc. Blk.  
4- Valve Boxes

Sta. 66+70±  
O/S = 38.67' Rt.  
1- Air Relief Valve Unit  
1- Valve Box

Sta. 66+70.92  
FC Sta. 66+70.92

Sta. 67+20±  
O/S = 15' Rt.  
1- 12" 1/2 Bend M.J.  
1- Retainer Gland  
1- Conc. Blk.

Sta. 68+95  
O/S = 24' Rt.  
12" L.F. Conc. Jacket

Sta. 70+58.07  
PT. Sta. 70+58.07  
R = 5000

Sta. 71+20±  
O/S = 15' Rt.  
1- 12" 1/2 Bend M.J.  
1- Retainer Gland  
1- Conc. Blk.

Sta. 71+30±  
O/S = 14' Rt.  
Connect to Exist.  
12" C.I. Water Line  
1- 12" Transition Coupling  
1- 12" Nipple (Cut to Fit)  
2- 12" Solid Body Sleeves

Sta. 71+34±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+36±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+40±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+46±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+76±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 72+30±  
O/S = 14' Rt.  
Connect to Exist.  
12" C.I. Water Line  
1- 12" Transition Coupling  
1- 12" Nipple (Cut to Fit)  
2- 12" Solid Body Sleeves

Sta. 71+20±  
O/S = 15' Rt.  
1- 12" 1/2 Bend M.J.  
1- Retainer Gland  
1- Conc. Blk.

Sta. 71+30±  
O/S = 14' Rt.  
Connect to Exist.  
12" C.I. Water Line  
1- 12" Transition Coupling  
1- 12" Nipple (Cut to Fit)  
2- 12" Solid Body Sleeves

Sta. 71+34±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+36±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+40±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+46±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+76±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 72+30±  
O/S = 14' Rt.  
Connect to Exist.  
12" C.I. Water Line  
1- 12" Transition Coupling  
1- 12" Nipple (Cut to Fit)  
2- 12" Solid Body Sleeves

Sta. 71+20±  
O/S = 15' Rt.  
1- 12" 1/2 Bend M.J.  
1- Retainer Gland  
1- Conc. Blk.

Sta. 71+30±  
O/S = 14' Rt.  
Connect to Exist.  
12" C.I. Water Line  
1- 12" Transition Coupling  
1- 12" Nipple (Cut to Fit)  
2- 12" Solid Body Sleeves

Sta. 71+34±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+36±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+40±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+46±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 71+76±  
O/S = 18' Rt.  
Connect to Exist.  
4" Gas Line

Sta. 72+30±  
O/S = 14' Rt.  
Connect to Exist.  
12" C.I. Water Line  
1- 12" Transition Coupling  
1- 12" Nipple (Cut to Fit)  
2- 12" Solid Body Sleeves

# PLAN

V.C.

Finish Grade Along B

Inv. 12" D.I. Waterline  
Exist. Gnd. Along B

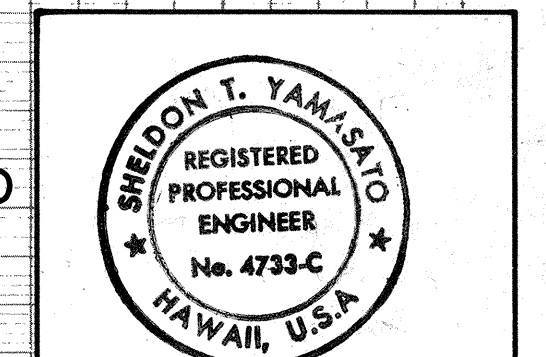
Inv. 12" W.L.

# PROFILE

Scale: Horiz. 1" = 40'  
Vert. 1" = 4'

| DATE    | REVISION                                                        |
|---------|-----------------------------------------------------------------|
| 6/16/89 | Added Ball Valves, 12" Tr. Flex Restrained Joint & Steel Casing |
| 5/1/89  | Revised Water Line                                              |
| 11/1/88 | Relocated Gas Line                                              |

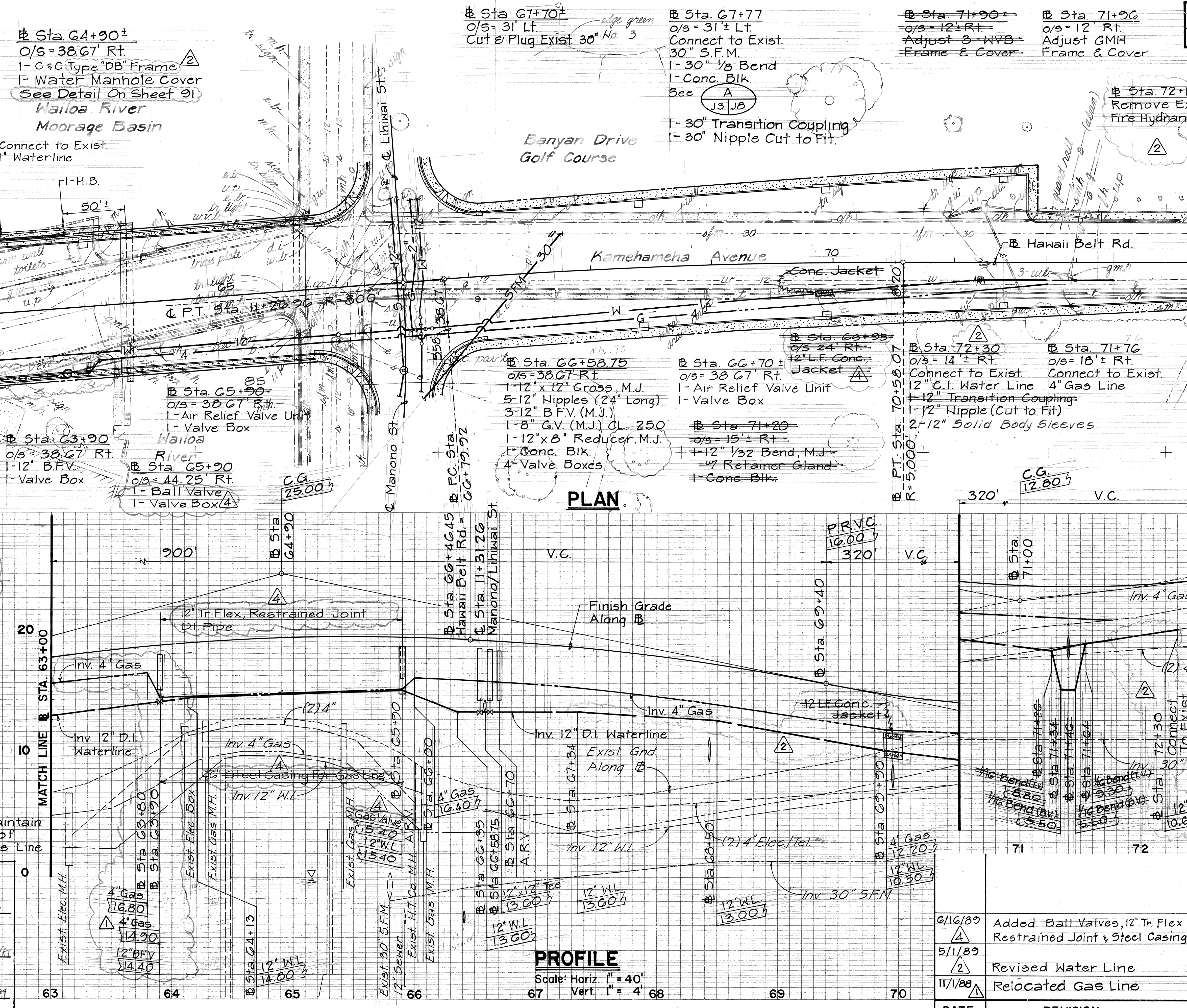
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**UTILITY PLAN**  
B. STA. 63+00 TO 73+00  
HAWAII BELT ROAD/KAMEHAMEHA AVENUE  
Wailoa Bridge Replacement And Approaches  
FEDERAL AID PROJECT NO. BR-F-019-2(27)  
SCALE: AS NOTED DATE: SEPT., 1986  
SHEET NO. J3 OF 8 SHEETS



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

| ORIGINAL PLAN | DATE |
|---------------|------|
| DESIGNED BY   |      |
| NOTED BY      |      |
| CHECKED BY    |      |
| NO.           |      |

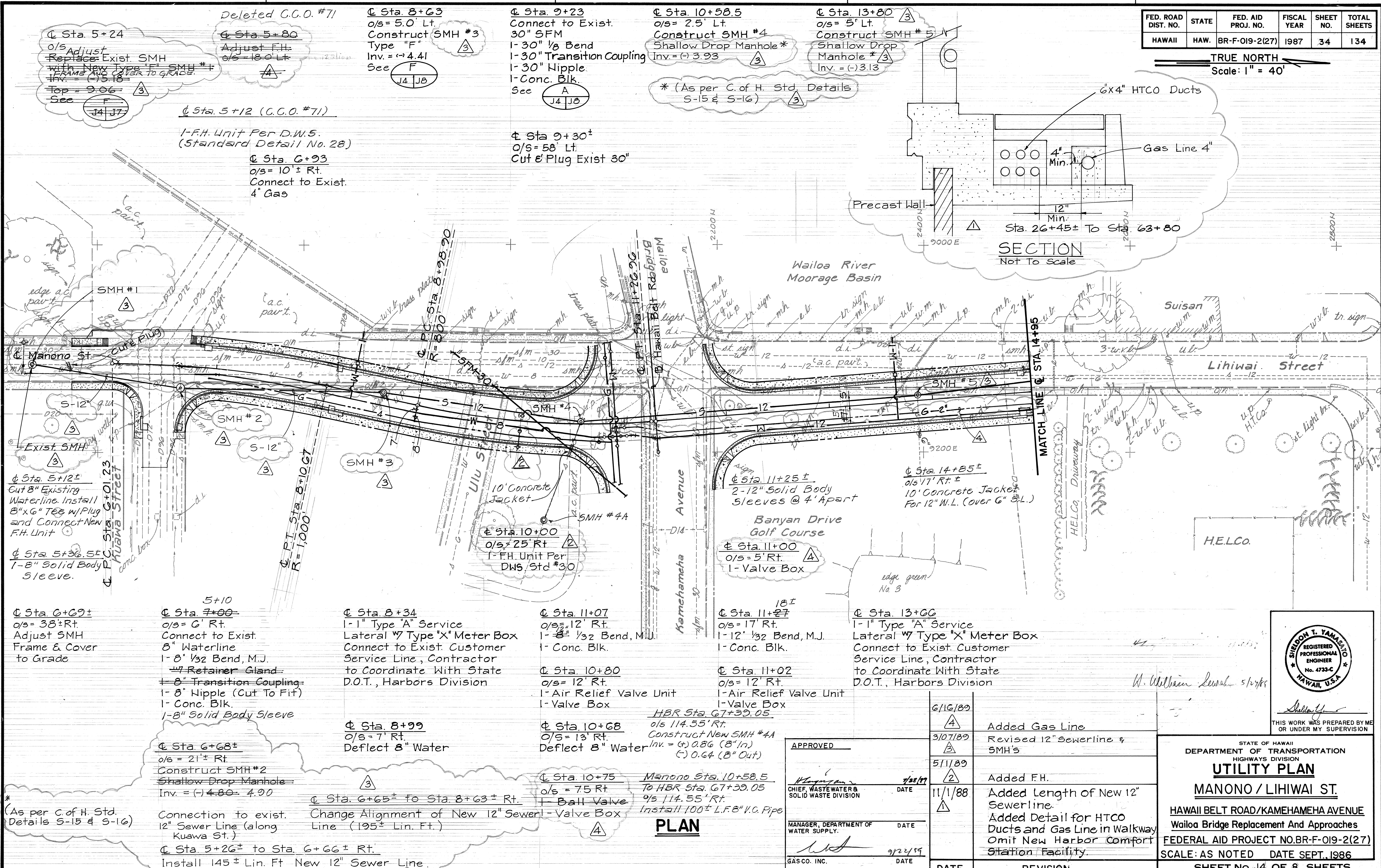
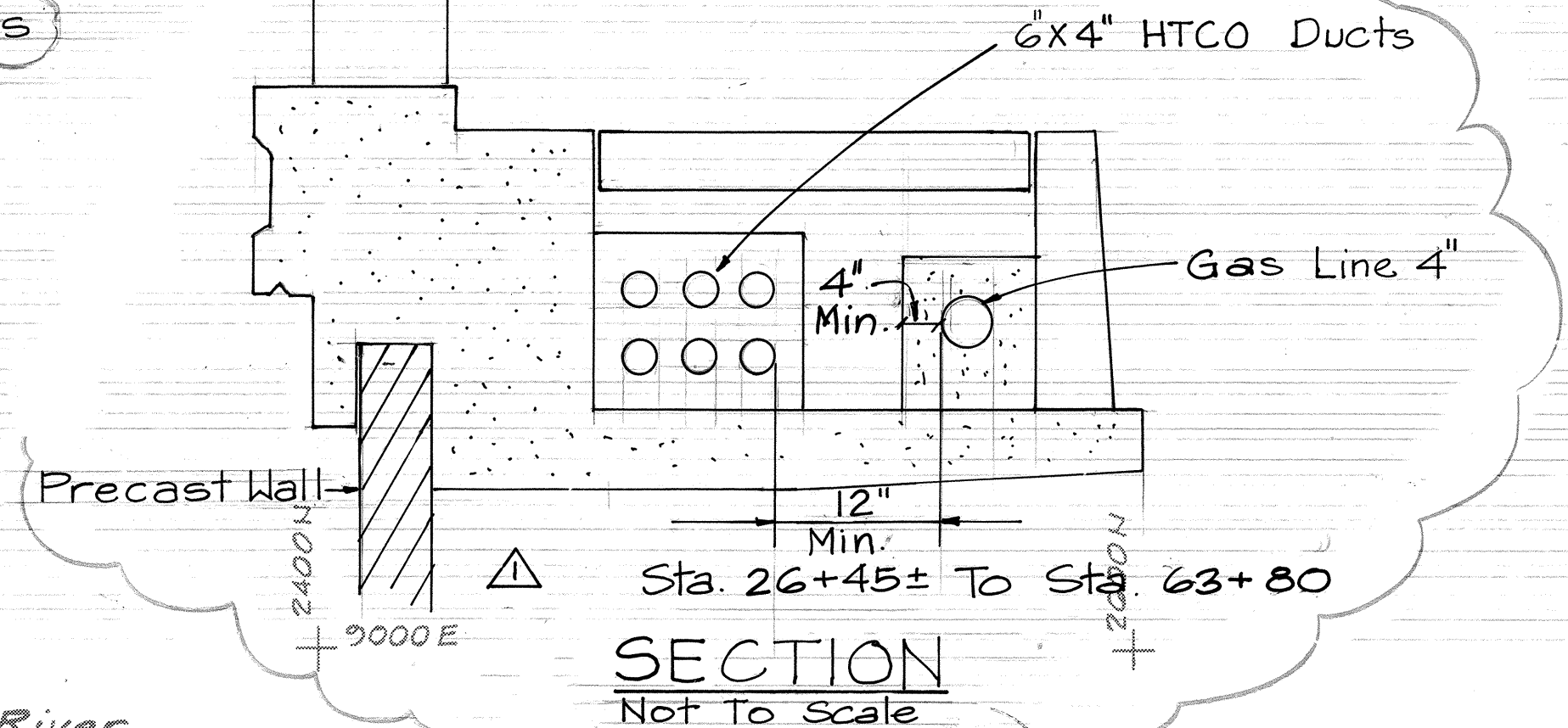
| APPROVED                                  | DATE    |
|-------------------------------------------|---------|
| CHIEF, WASTE WATER & SOLID WASTE DIVISION | 9/20/89 |
| MANAGER, DEPARTMENT OF WATER SUPPLY       | 9/20/89 |
| GAS CO. INC.                              | DATE    |



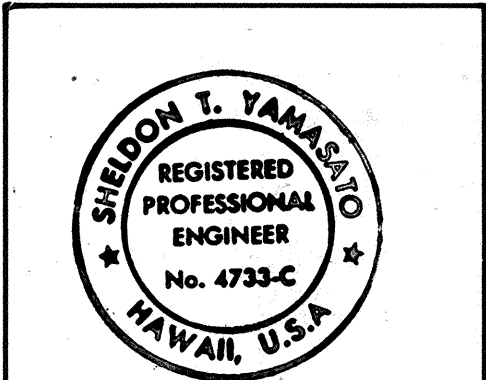
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-F-019-2(27)     | 1987        | 34        | 134          |

TRUE NORTH

Scale: 1" = 40'



|                   |       |
|-------------------|-------|
| DATE              | ..... |
| SURVEY PLOTTED BY | ..... |
| DRAWN BY          | ..... |
| TRACED BY         | ..... |
| NOTED BY          | ..... |
| CHECKED BY        | ..... |
| ORIGINAL PLAN     | ..... |
| NOTE BOOK         | ..... |
| NO.               | ..... |



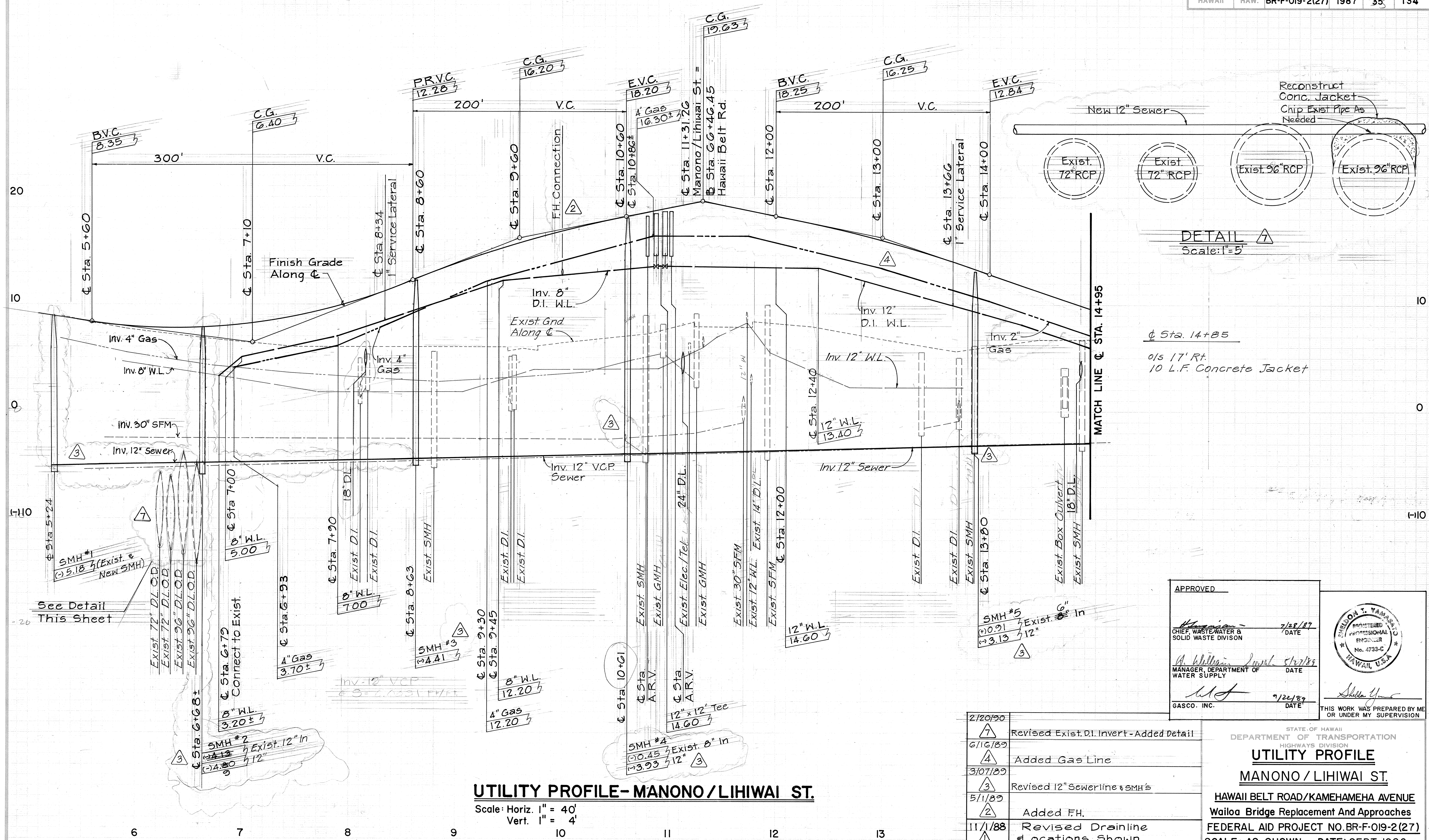
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| DATE    | REVISION                                                                                                                               |
|---------|----------------------------------------------------------------------------------------------------------------------------------------|
| 6/16/89 | Added Gas Line                                                                                                                         |
| 3/07/89 | Revised 12" Sewerline & SMH's                                                                                                          |
| 5/11/89 | Added F.H.                                                                                                                             |
| 11/1/88 | Added Length of New 12" Sewerline.<br>Added Detail for HTCO Ducts and Gas Line in Walkway<br>Omit New Harbor Comfort Station Facility. |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**UTILITY PLAN**  
**MANONO / LIHIWAI ST.**  
HAWAII BELT ROAD/KAMEHAMEHA AVENUE  
Wailoa Bridge Replacement And Approaches  
FEDERAL AID PROJECT NO. BR-F-019-2(27)  
SCALE: AS NOTED DATE SEPT. 1986  
SHEET No. 34 OF 8 SHEETS

PLAN

| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | BR-F-019-2(27)        | 1987           | 35           | 134             |



|         |   |                                           |
|---------|---|-------------------------------------------|
| 2/20/90 | 7 | Revised Exist. D.I. Invert - Added Detail |
| 6/16/89 | 4 | Added Gas Line                            |
| 3/07/89 | 3 | Revised 12" Sewerline & SMH's             |
| 5/1/89  | 2 | Added F.H.                                |
| 11/1/88 | 1 | Revised Drainline<br>• Locations Shown    |
| DATE    |   | REVISION                                  |

APPROVED \_\_\_\_\_

*H. Wilson* 7/28/89  
CHIEF, WASTE WATER &  
SOLID WASTE DIVISION DATE

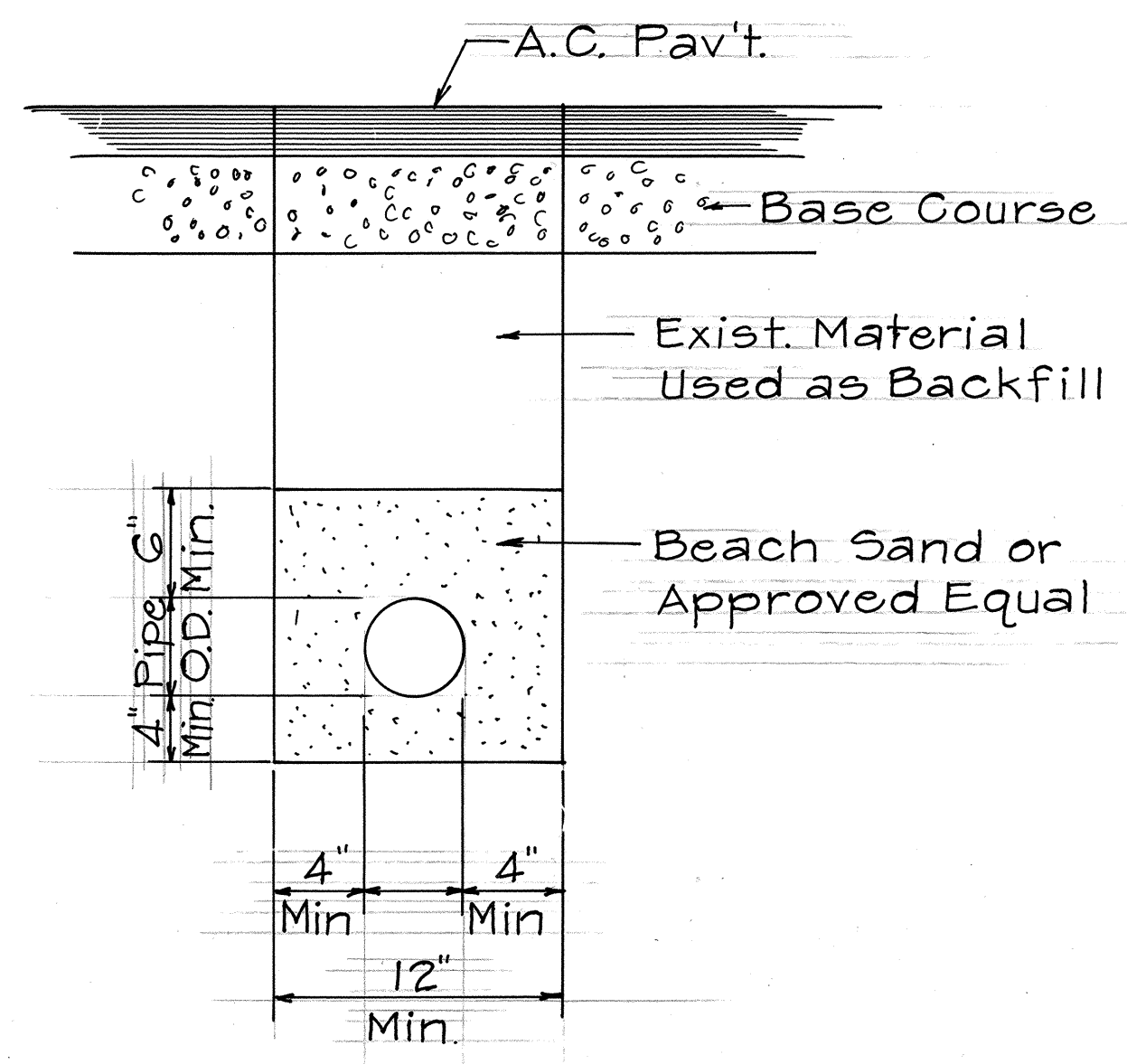
*A. Williams* 5/27/89  
MANAGER, DEPARTMENT OF  
WATER SUPPLY DATE

*W. J.* 7/22/89  
GASCO, INC. DATE

THE WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**UTILITY PROFILE**  
**MANONO / LIHIWAI ST.**  
**HAWAII BELT ROAD/KAMEHAMEHA AVENUE**  
**Wailoa Bridge Replacement And Approaches**  
**FEDERAL AID PROJECT NO.BR-F-019-2(27)**  
**SCALE: AS SHOWN      DATE: SEPT.,1986**  
**SHEET No. J5 OF 8 SHEETS**

C.O. 35



**GAS LINE TRENCH DETAIL**  
Not to Scale

Sta. 16+25  
2 1/2" Copper Service  
Lateral Connect To Existing  
2" G.I. Customer Line  
1-2" Gate Valve

Sta. 15+25±  
Cut and Cap 12" Line

15+88±  
Sta. 16+05±  
o/s = 17 Rt.  
1-4" Compound Meter Box  
Installation Per Water  
System Std. Detail No. 53  
4" Compound Meter to be  
Furnished & Installed By  
D.W.S., Connect to Exist.  
Customer Service Line.  
1-12" B.F.V. (C.C.O. #82)

16+20.6  
Sta. 16+43.5±  
o/s = 17 Rt.  
1- F.H. Connection  
Per Water System  
Std. Detail No. 30.

Sta. 15+50  
o/s = 7.0 ± LT  
Construct SMH #6  
Type "F"  
Inv. = (-) 2.78  
See Detail

Sta. 16+48.52  
1-1" Type "A" Copper  
Service Lateral  
Connect to Exist  
Customer Service  
Line.

Sta. 18+40  
o/s = 15 Rt.  
End Gas Line

Sta. 18+00±  
2-12" Solid Body Sleeves

Existing 3"x3" Tee  
Cut and Cap  
Existing Service  
To Suisan's  
2" Meter

Sta. 16+02± & 16+08±  
2-12" Solid Body Sleeves

Sta. 16+63  
o/s = 17 Rt.  
10 LF Concrete  
Jacket

Sta. 16+84±  
2" Plastic  
Service Lateral  
(Gas)

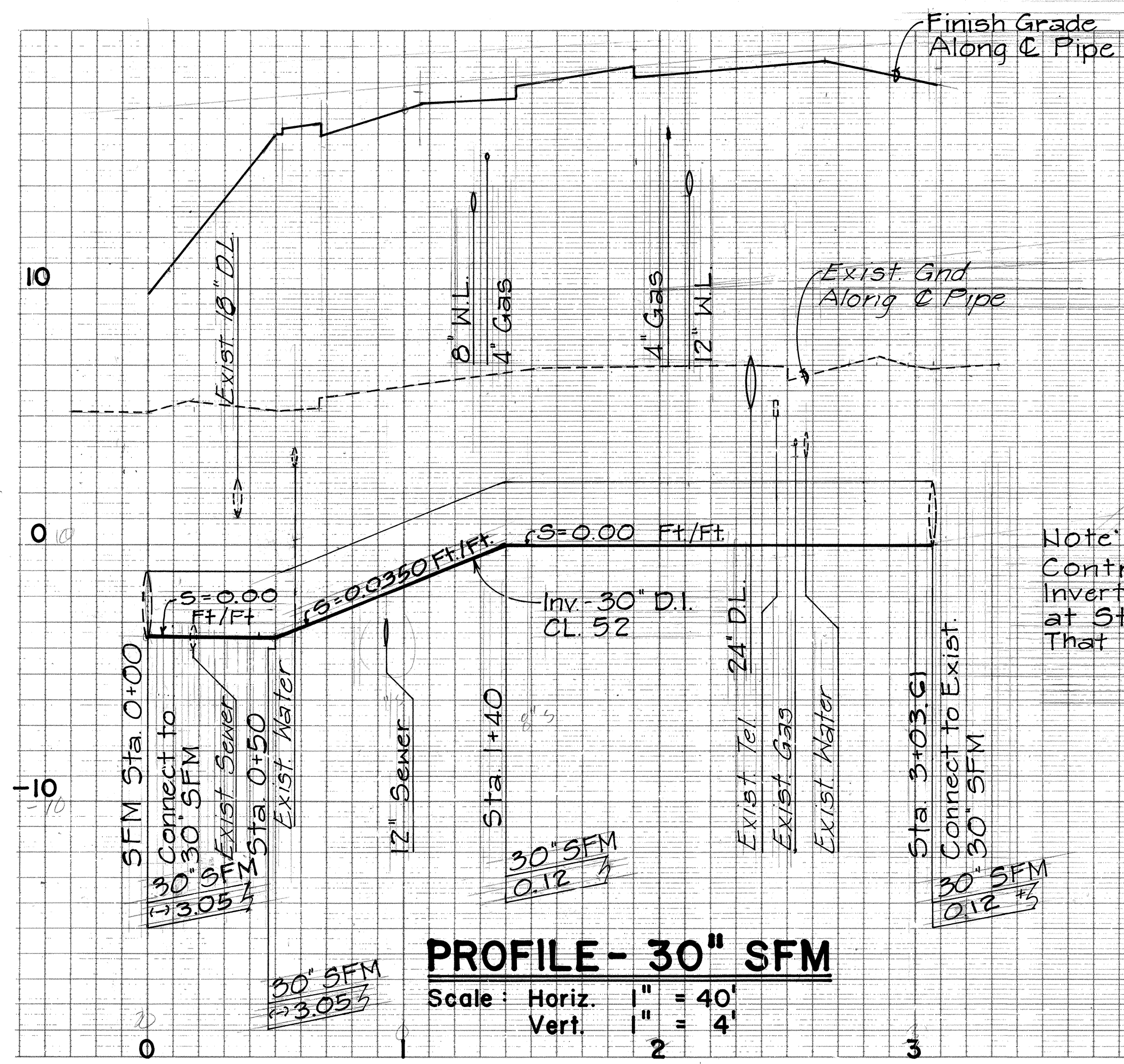
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-F-019-2(27)     | 1987        | 36        | 134          |

TRUE NORTH  
Scale: 1" = 40'

Sta. 18+30±  
o/s = 13 Rt.  
Connect to Exist.  
6" Waterline  
1-6" Nipple (Cut to Fit)  
1-6" Transition Coupling

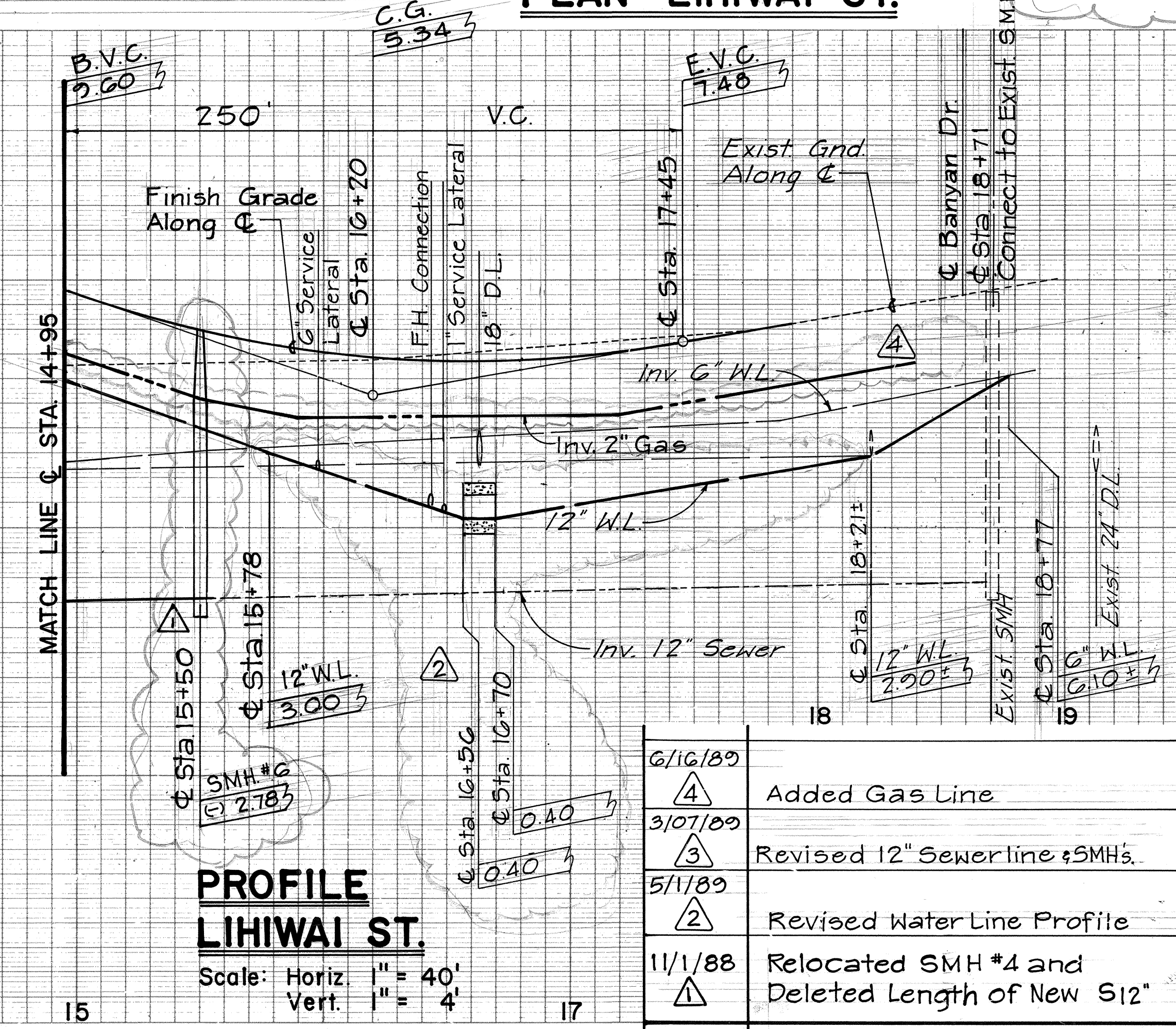
Sta. 18+21±  
o/s = 18 Rt.  
Connect to Exist. 12"  
Waterline  
1-12"x12" Tee  
1-12" B.F.V., M.J.  
1-6" G.V., M.J. (Cl. 250)  
3-12" Nipples (24" Long)  
1-12" Transition Coupling  
1-12" Solid Body Sleeve  
1-12"x6" Reducer, M.J.  
1-12" Bend, M.J.  
1-6" Nipple (24" Long)  
1-Valve Box  
2-Conc. Blk.  
50-LF 6" Pipe

**PLAN - LIHIWAI ST.**



**PROFILE - 30" SFM**  
Scale: Horiz. 1" = 40'  
Vert. 1" = 4'

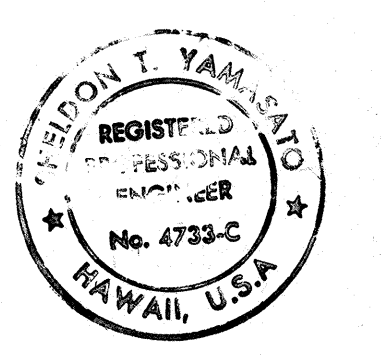
Note:  
Contractor to Verify The  
Invert at Sta. 3+07, Inv.  
at Sta. 1+40 to Match  
That of Sta. 3+07.



**PROFILE LIHIWAI ST.**  
Scale: Horiz. 1" = 40'  
Vert. 1" = 4'

| DATE    | REVISION                                        |
|---------|-------------------------------------------------|
| 6/16/89 | Added Gas Line                                  |
| 3/07/89 | Revised 12" Sewerline & SMH's.                  |
| 5/1/89  | Revised Water Line Profile                      |
| 11/1/88 | Relocated SMH #4 and Deleted Length of New S12" |

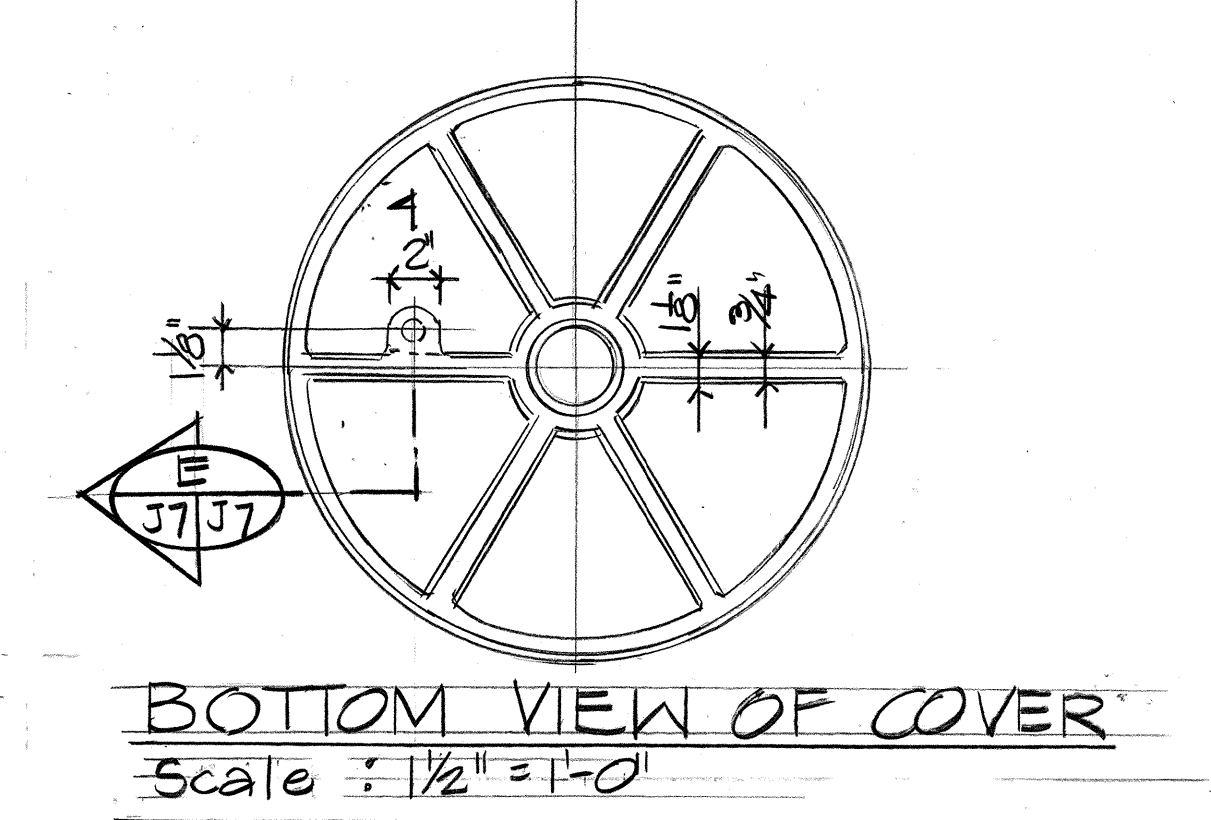
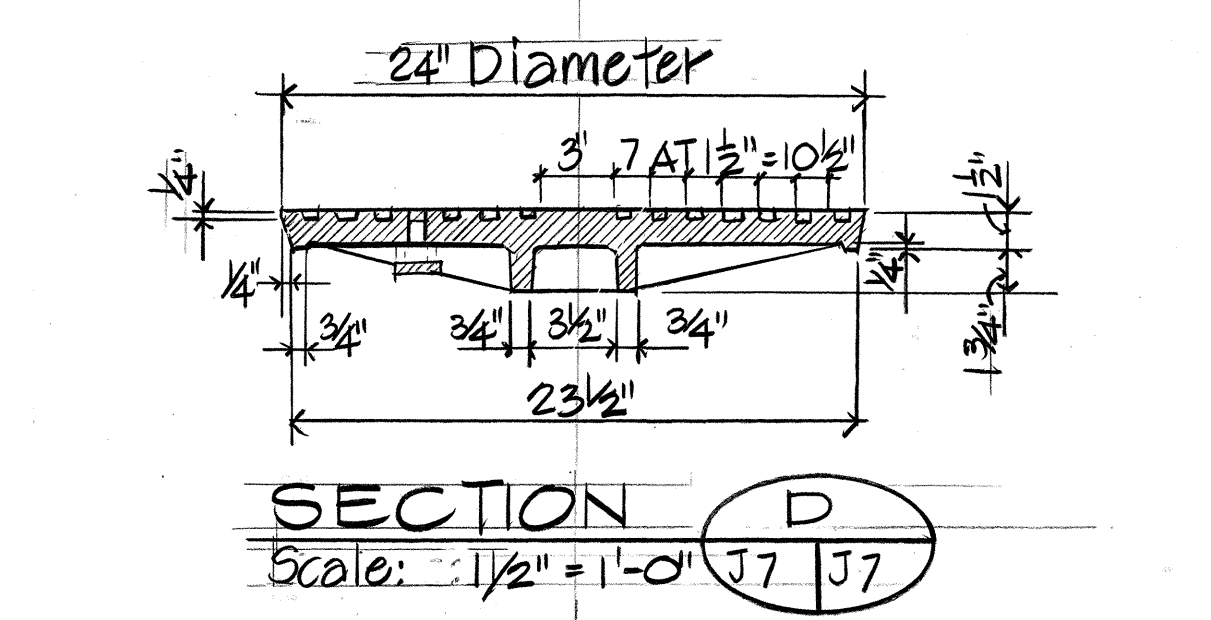
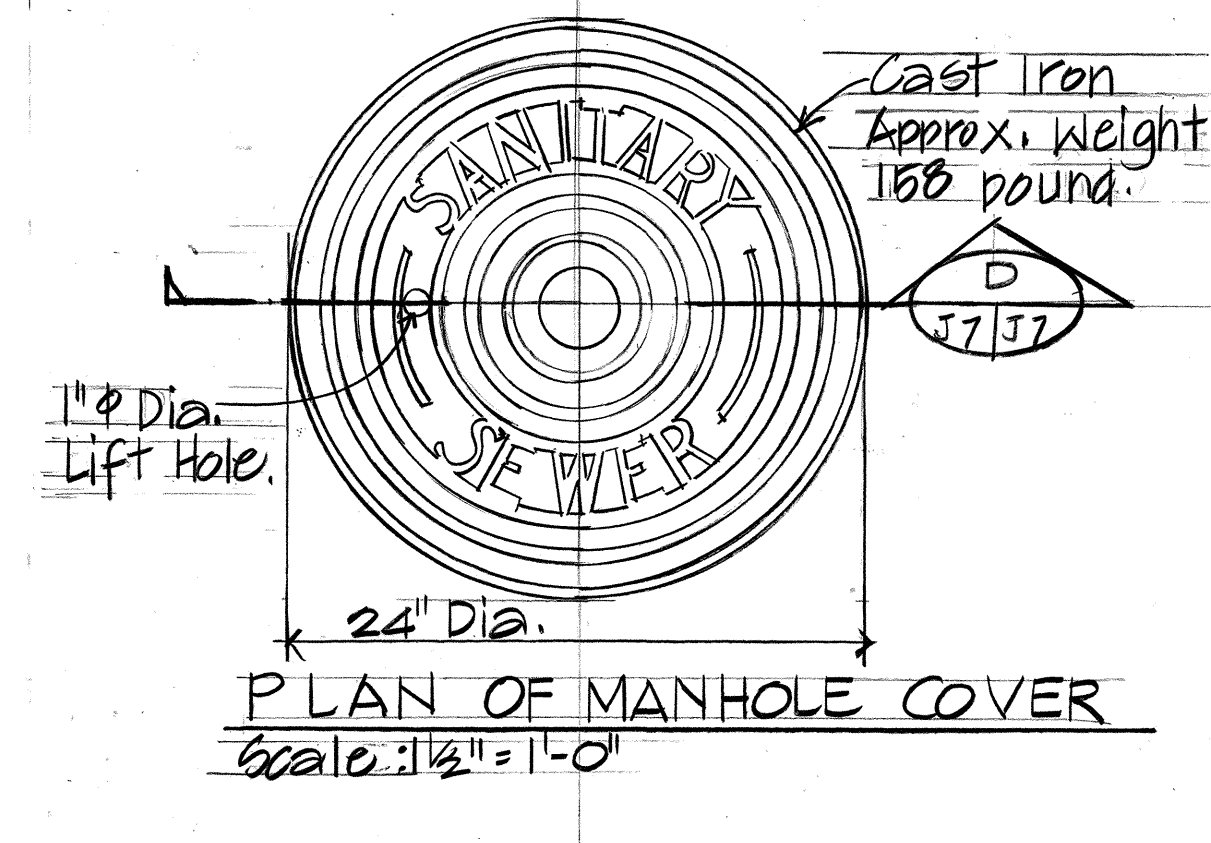
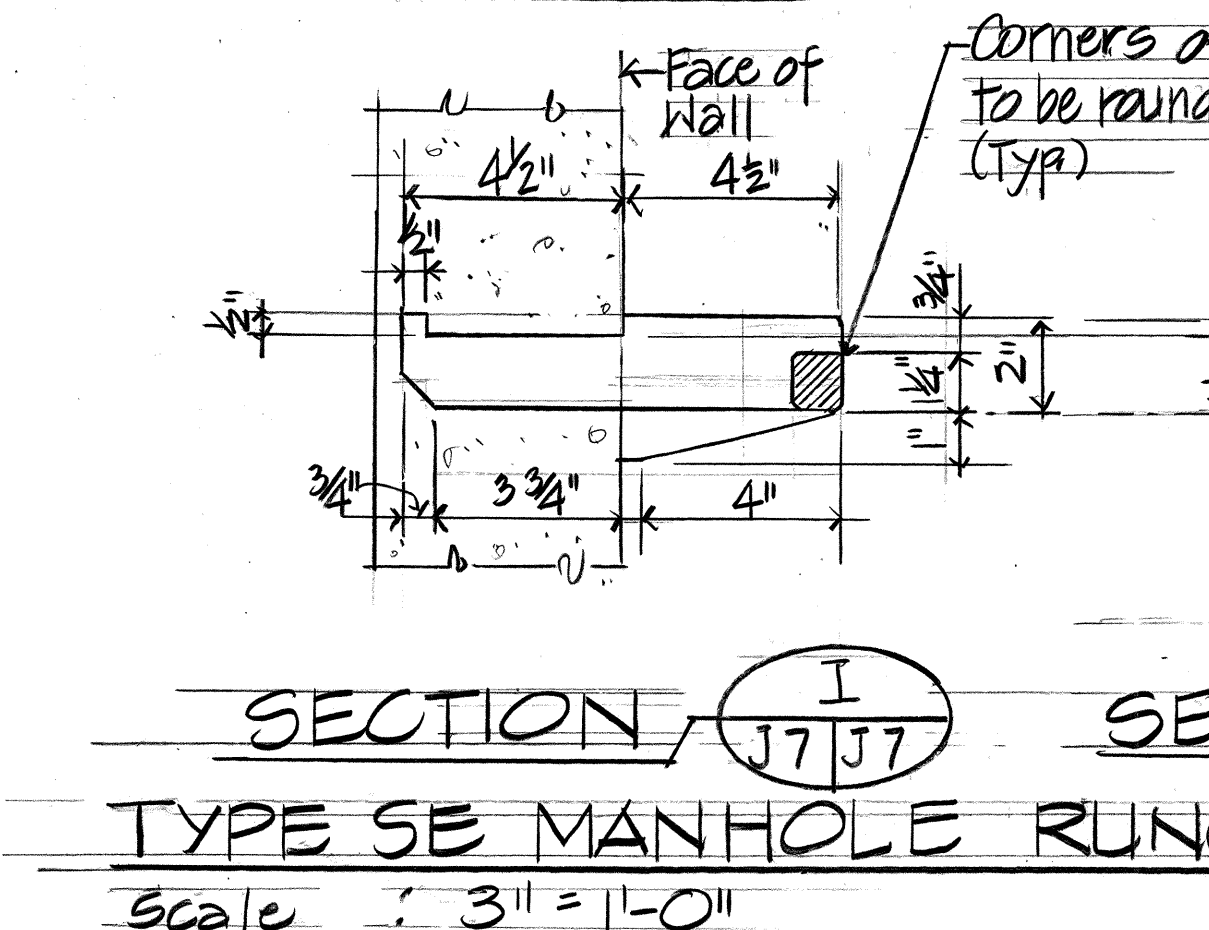
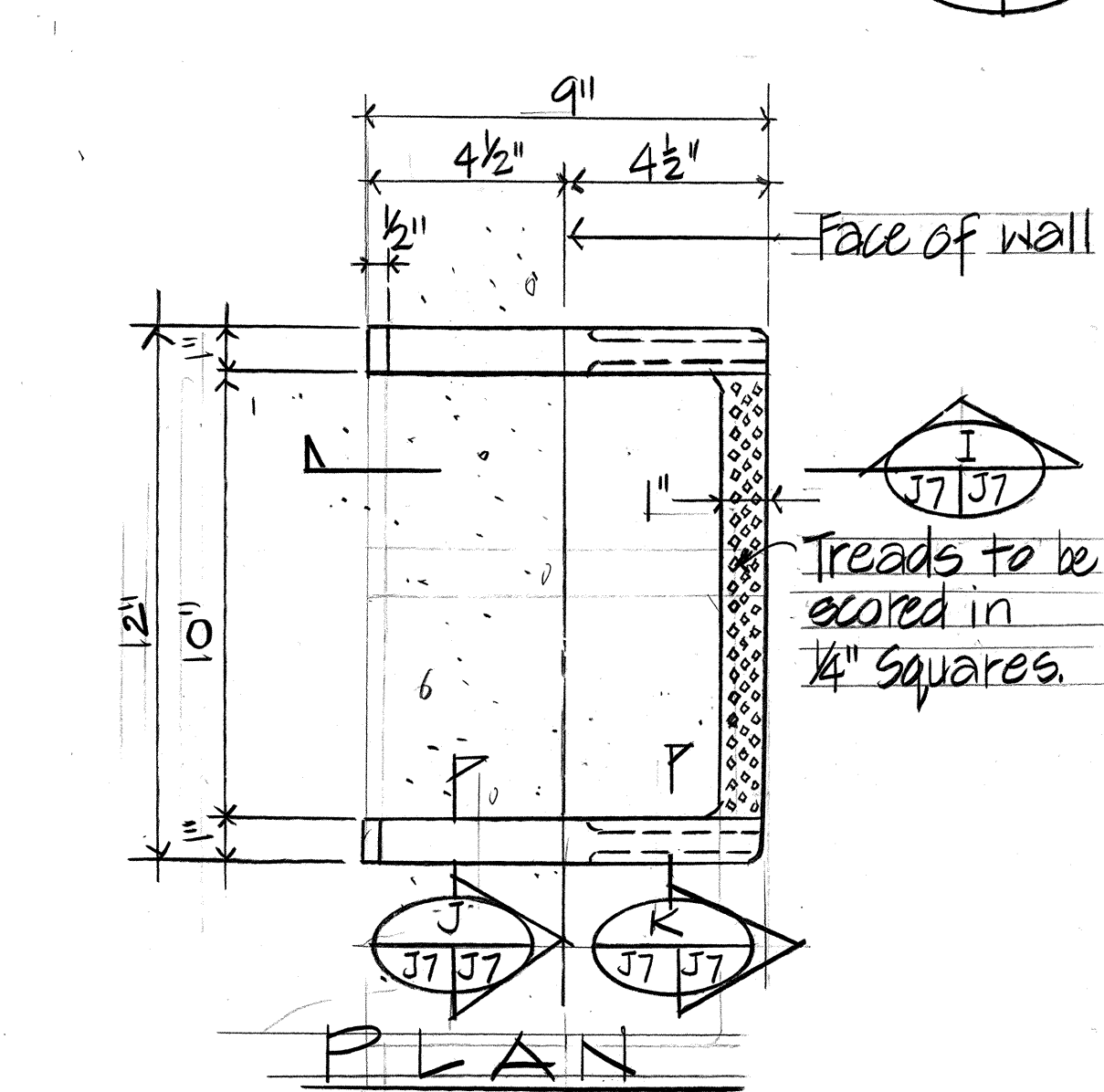
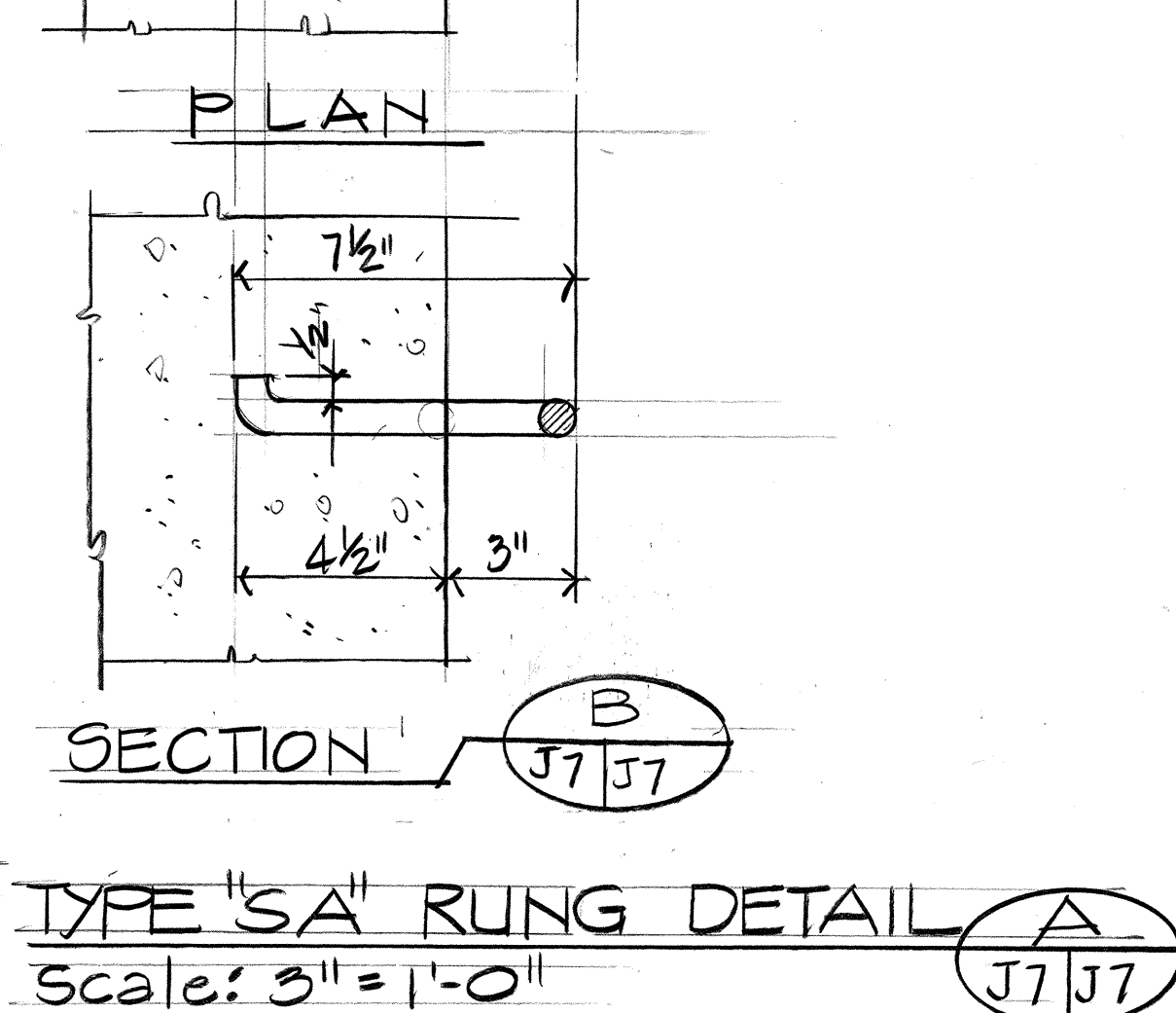
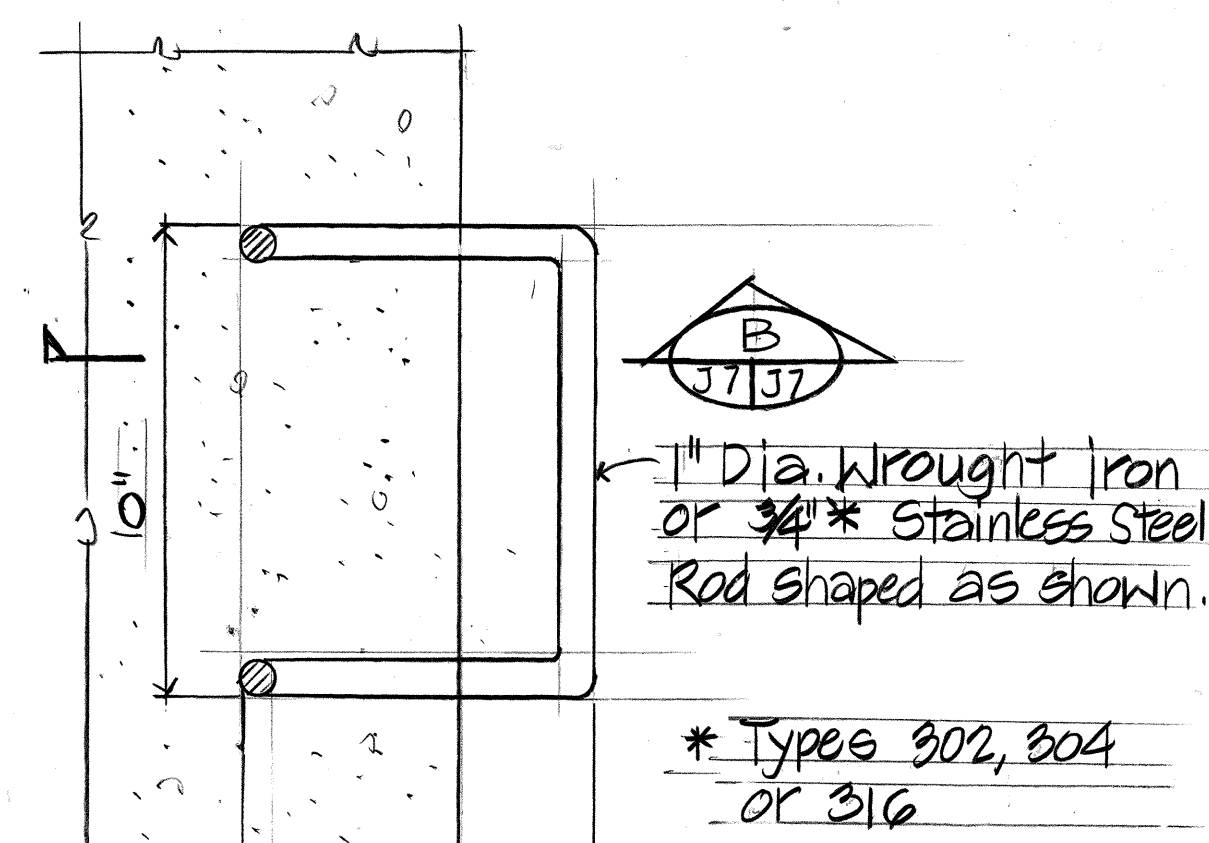
APPROVED  
CHIEF, WASTE WATER & SOLID WASTE DIVISION  
MANAGER, DEPARTMENT OF WATER SUPPLY  
GASCO INC.



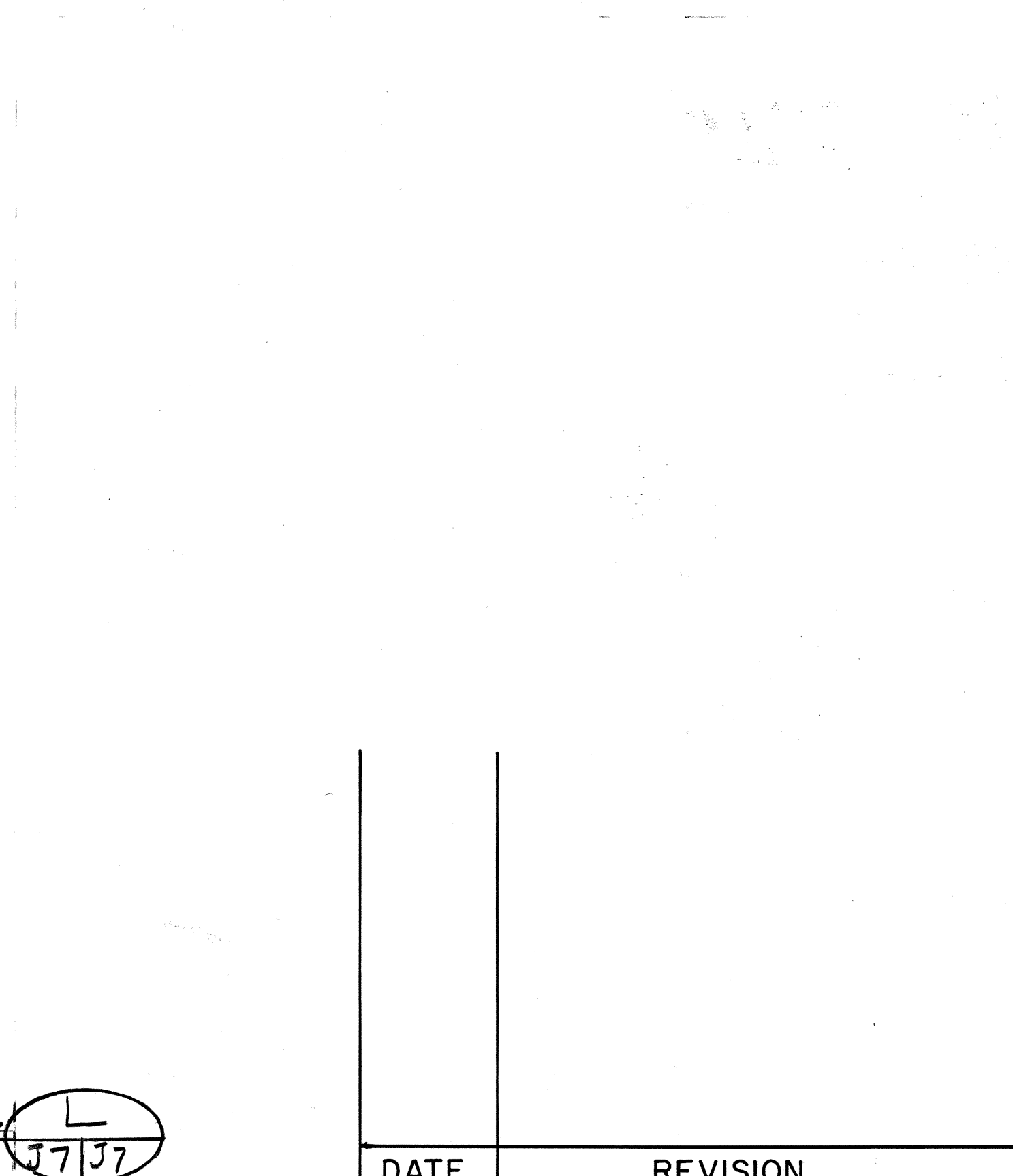
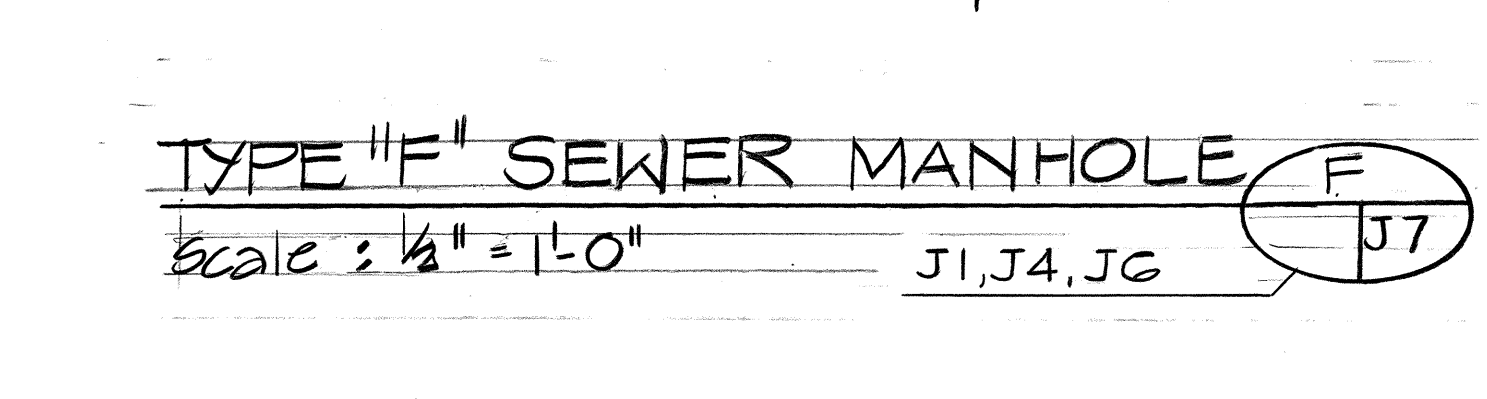
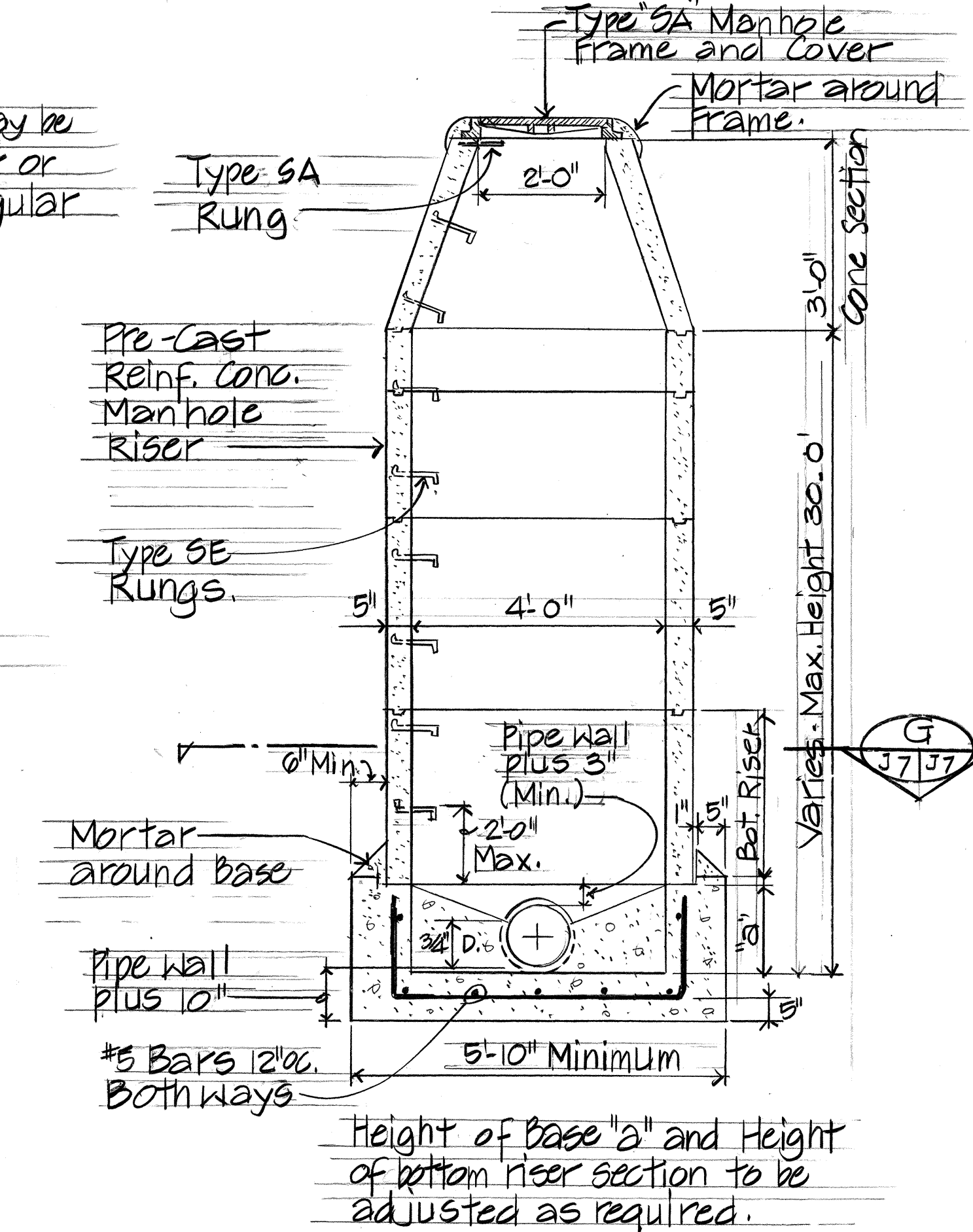
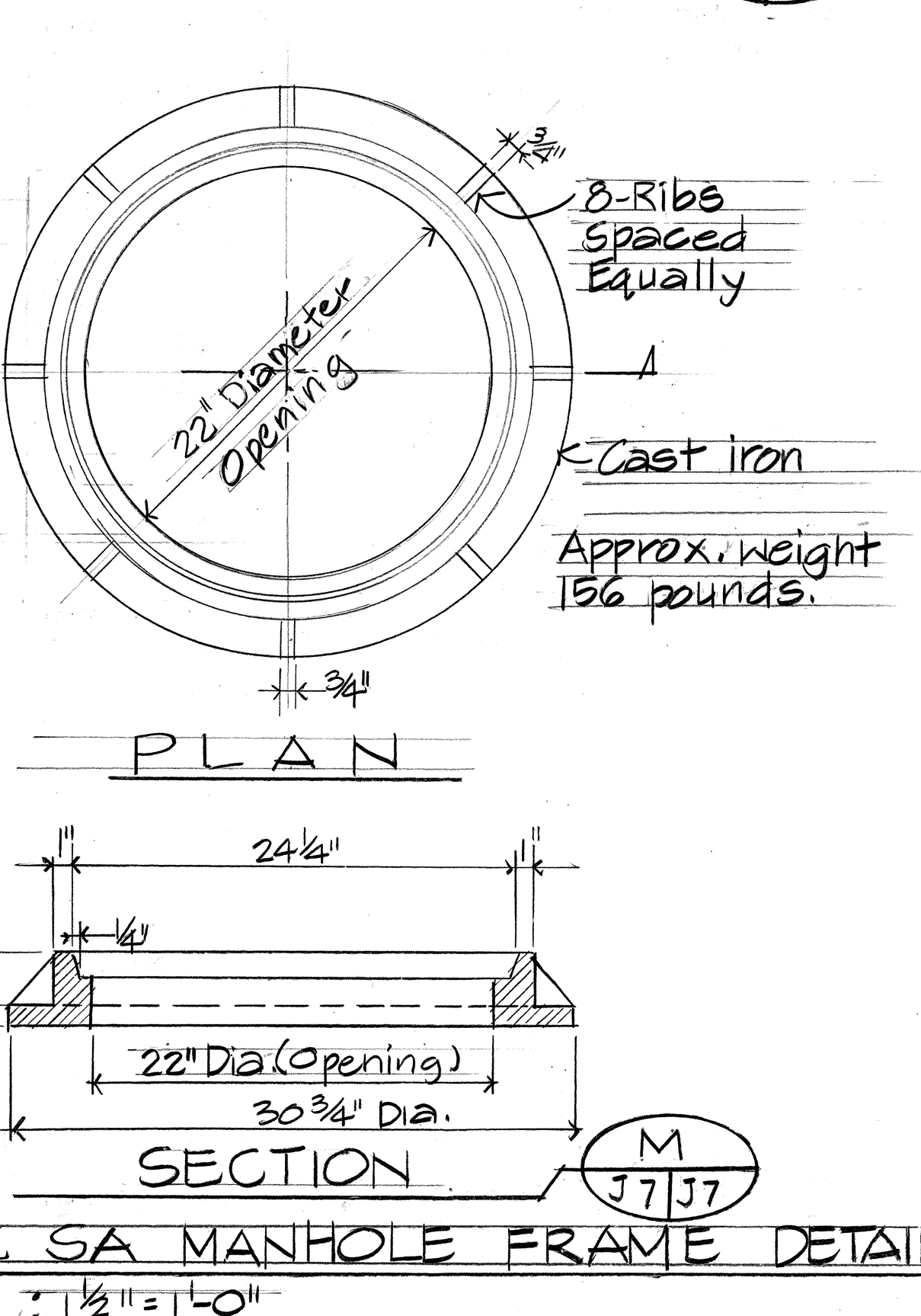
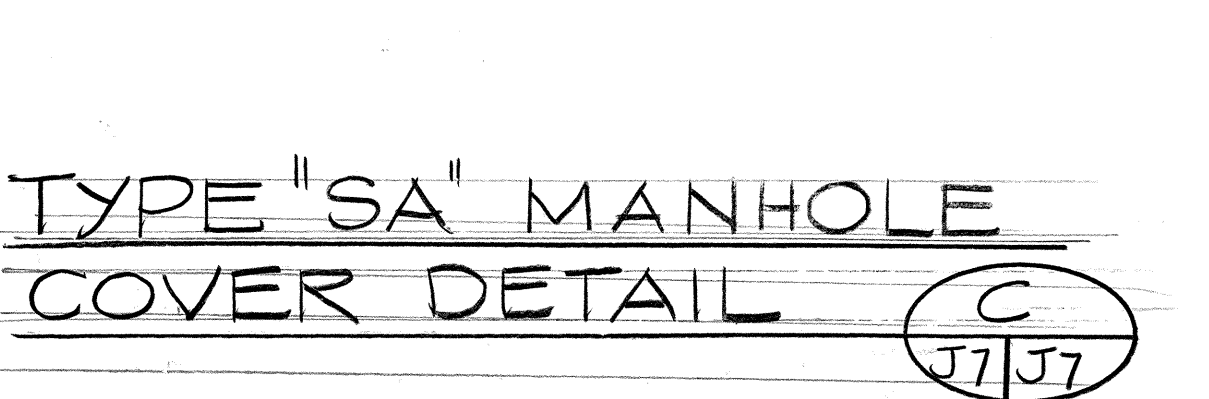
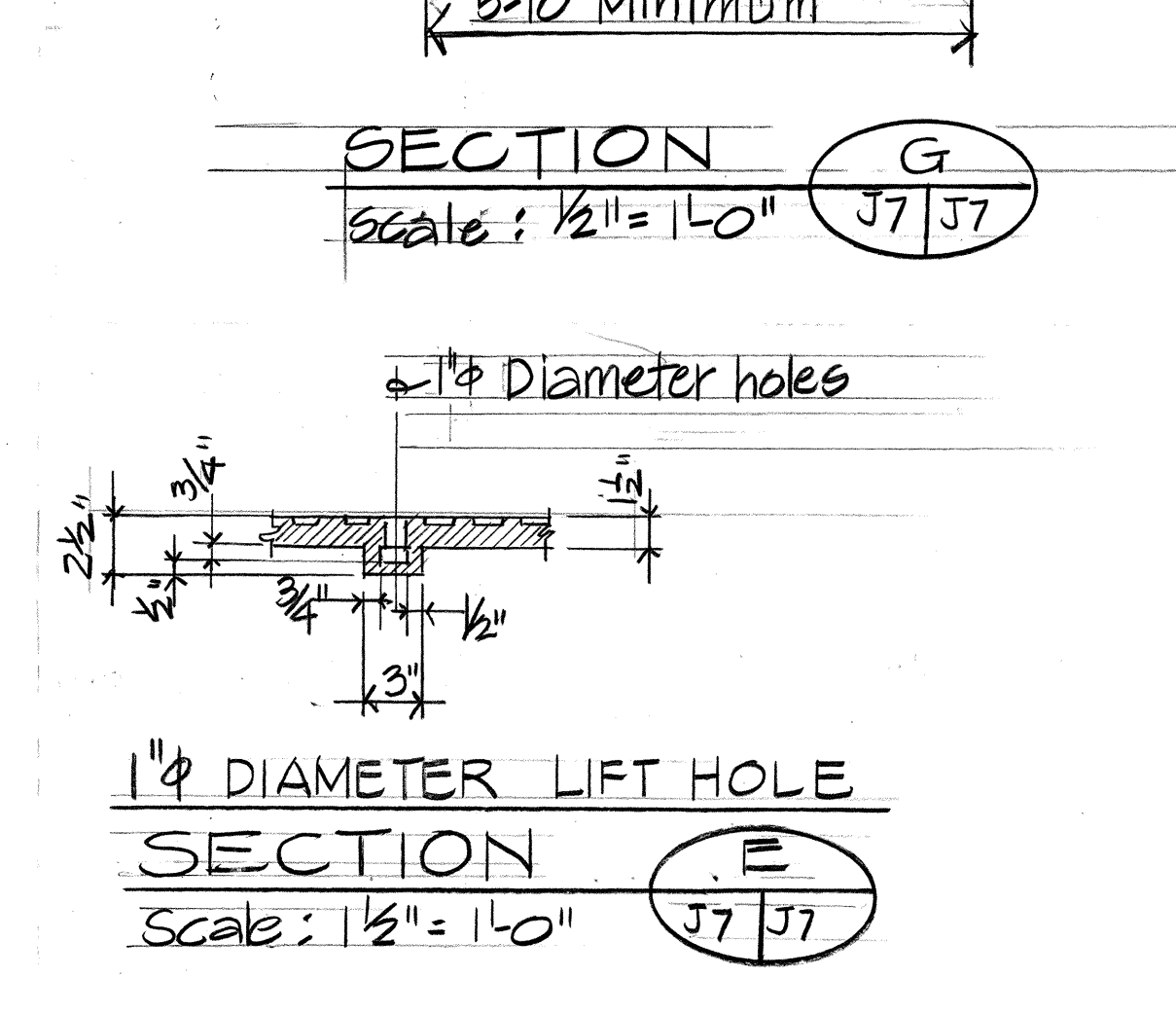
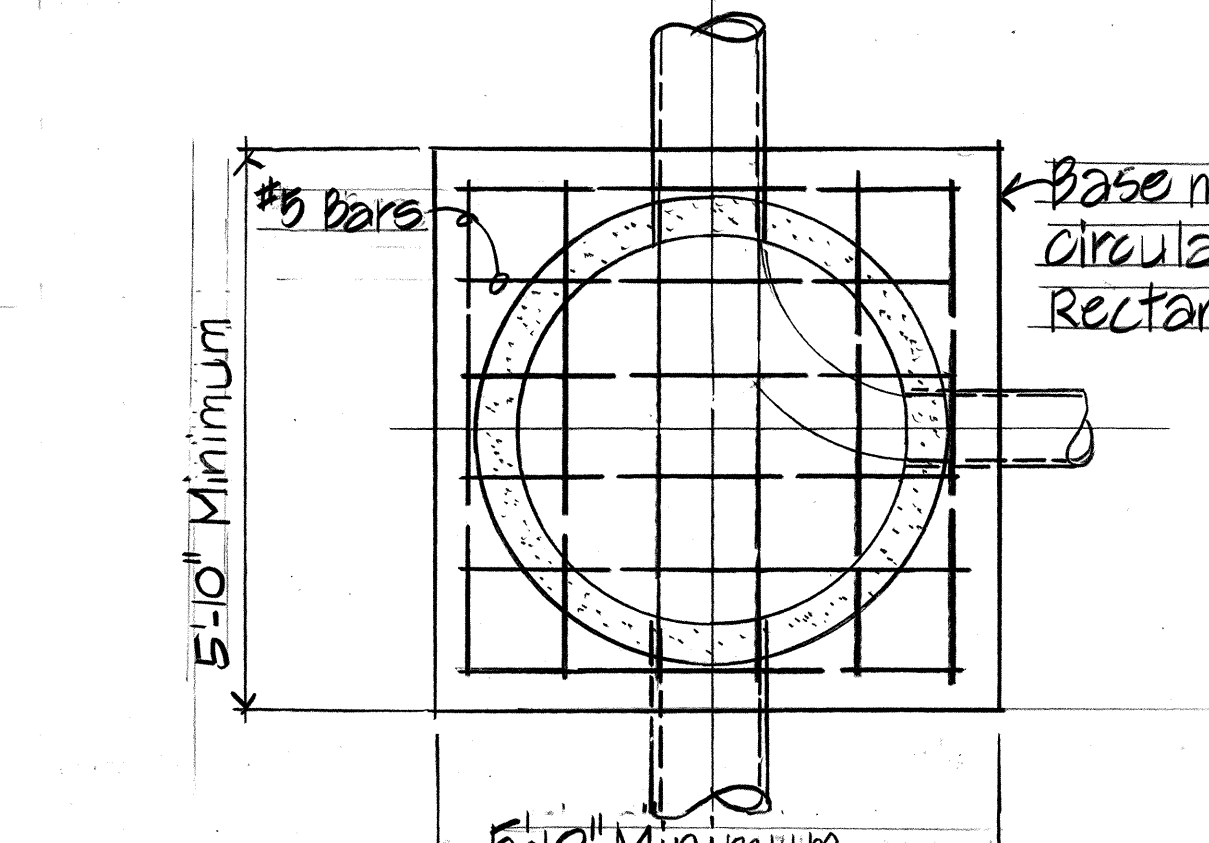
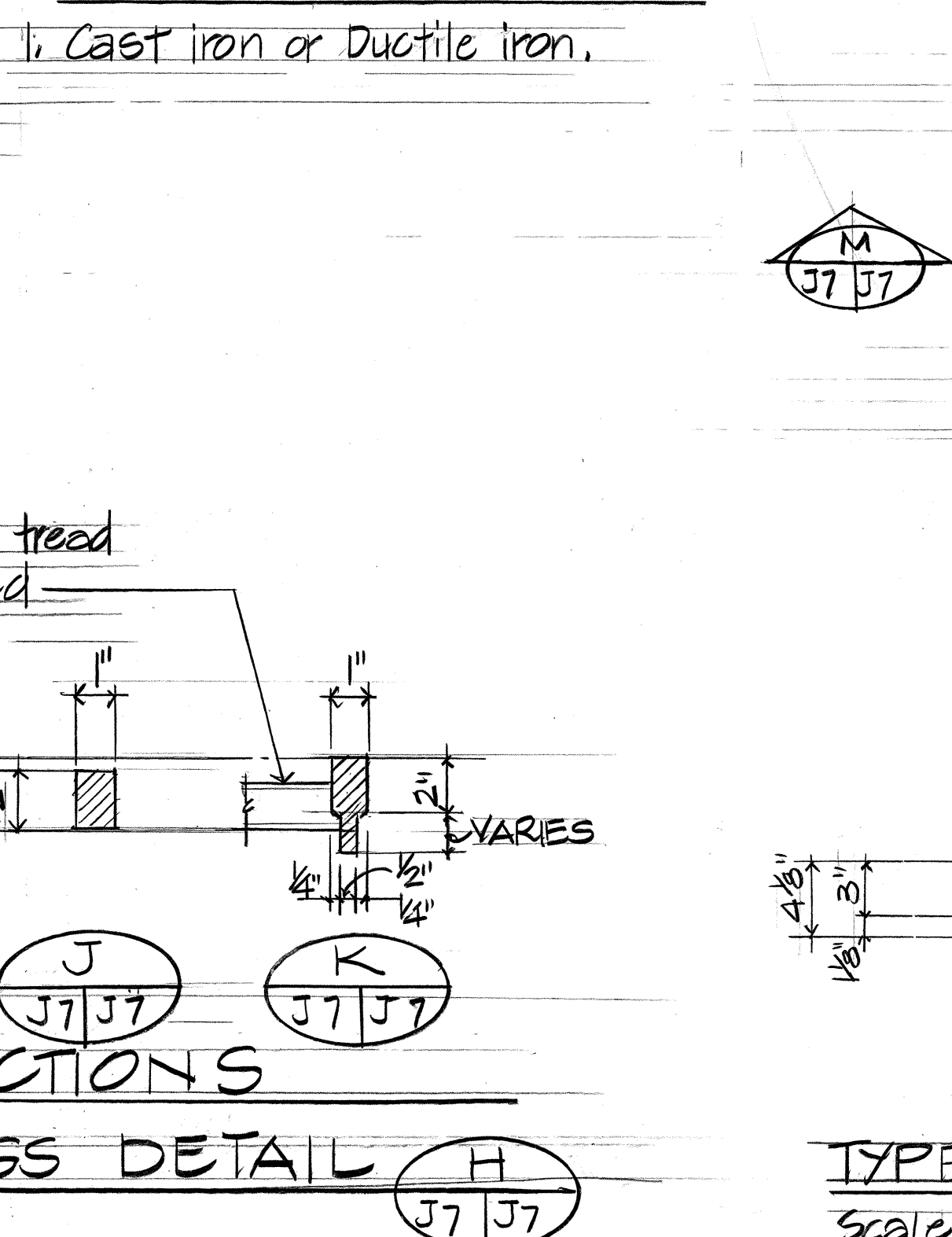
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**UTILITY PLAN**  
**LIHIWAI ST.**  
HAWAII BELT ROAD/KAMEHAMEHA AVENUE  
Wailoa Bridge Replacement And Approaches  
FEDERAL AID PROJECT NO. BR-F-019-2(27)  
SCALE: AS NOTED DATE SEPT., 1986  
SHEET No. 36 OF 8 SHEETS

C.O.36

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-F-019-2(27)     | 1987        | 37        | 134          |



Notes:  
1. Cast Iron or Ductile Iron.



Shilton T. Yamada  
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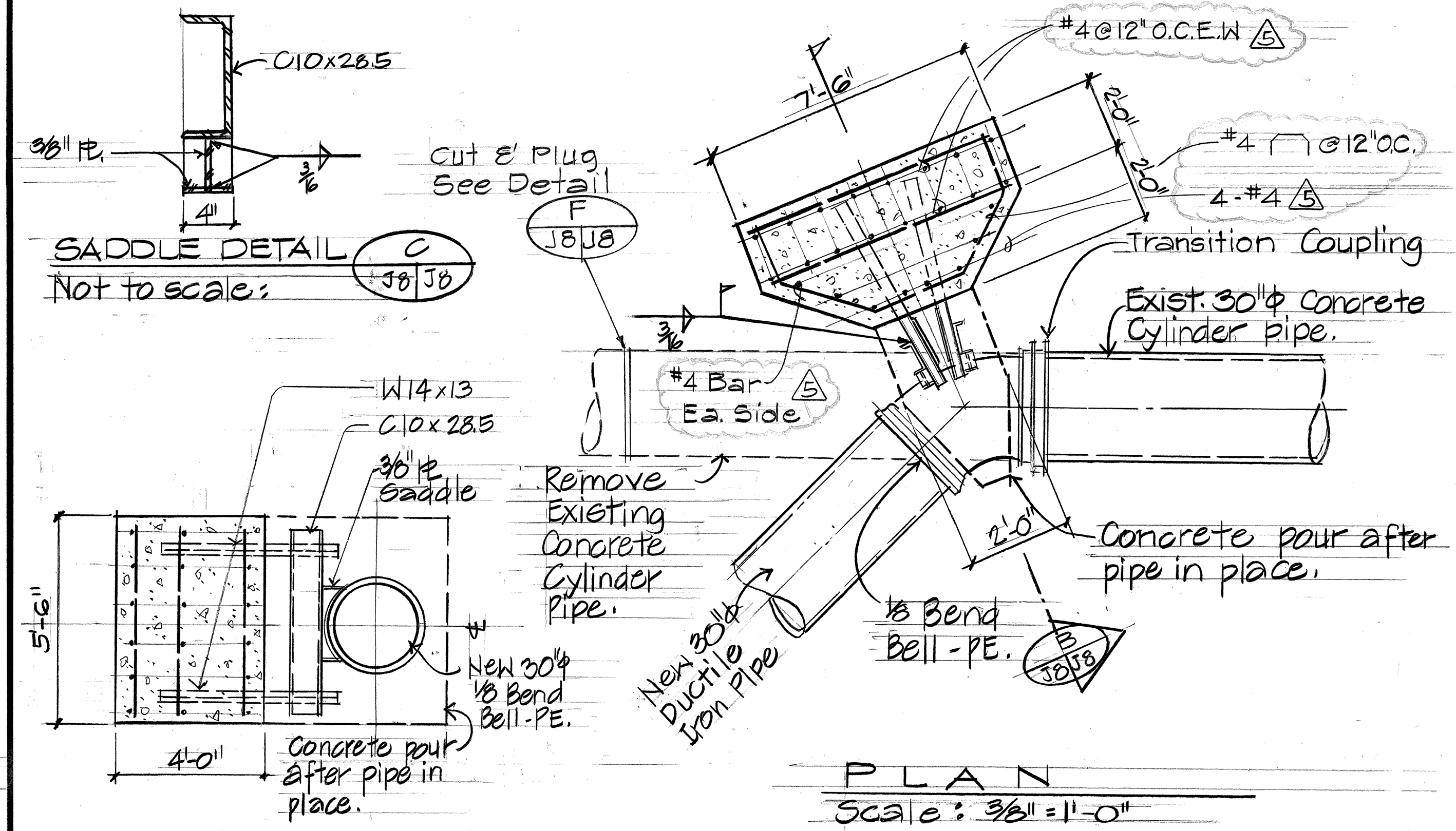
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

SEWER DETAILS

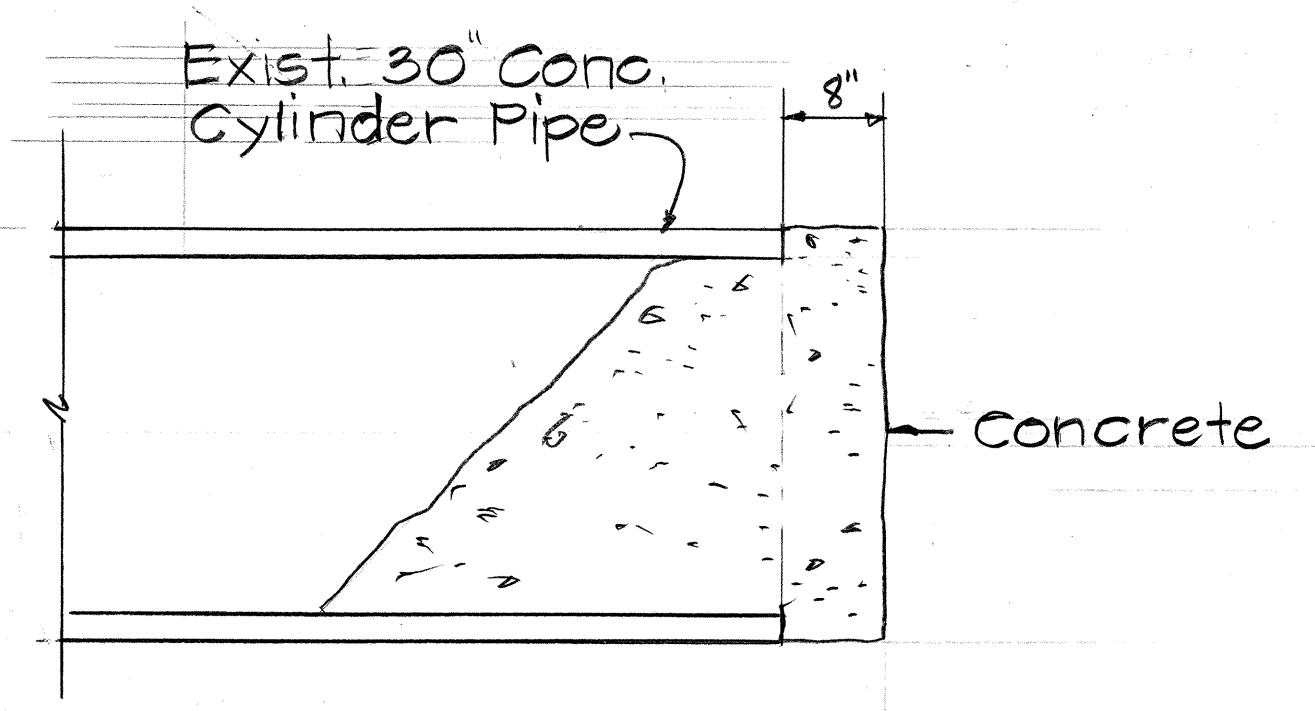
HAWAII BELT ROAD/KAMEHAMEHA AVENUE  
Wailoa Bridge Replacement And Approaches  
FEDERAL AID PROJECT NO. BR-F-019-2(27)  
SCALE: AS NOTED DATE: SEPT. 1986  
SHEET NO. 37 OF 8 SHEETS

|               |      |
|---------------|------|
| ORIGINAL PLAN | DATE |
| DRAWN BY      |      |
| TRACED BY     |      |
| DESIGNED BY   |      |
| CHECKED BY    |      |
| NO.           |      |

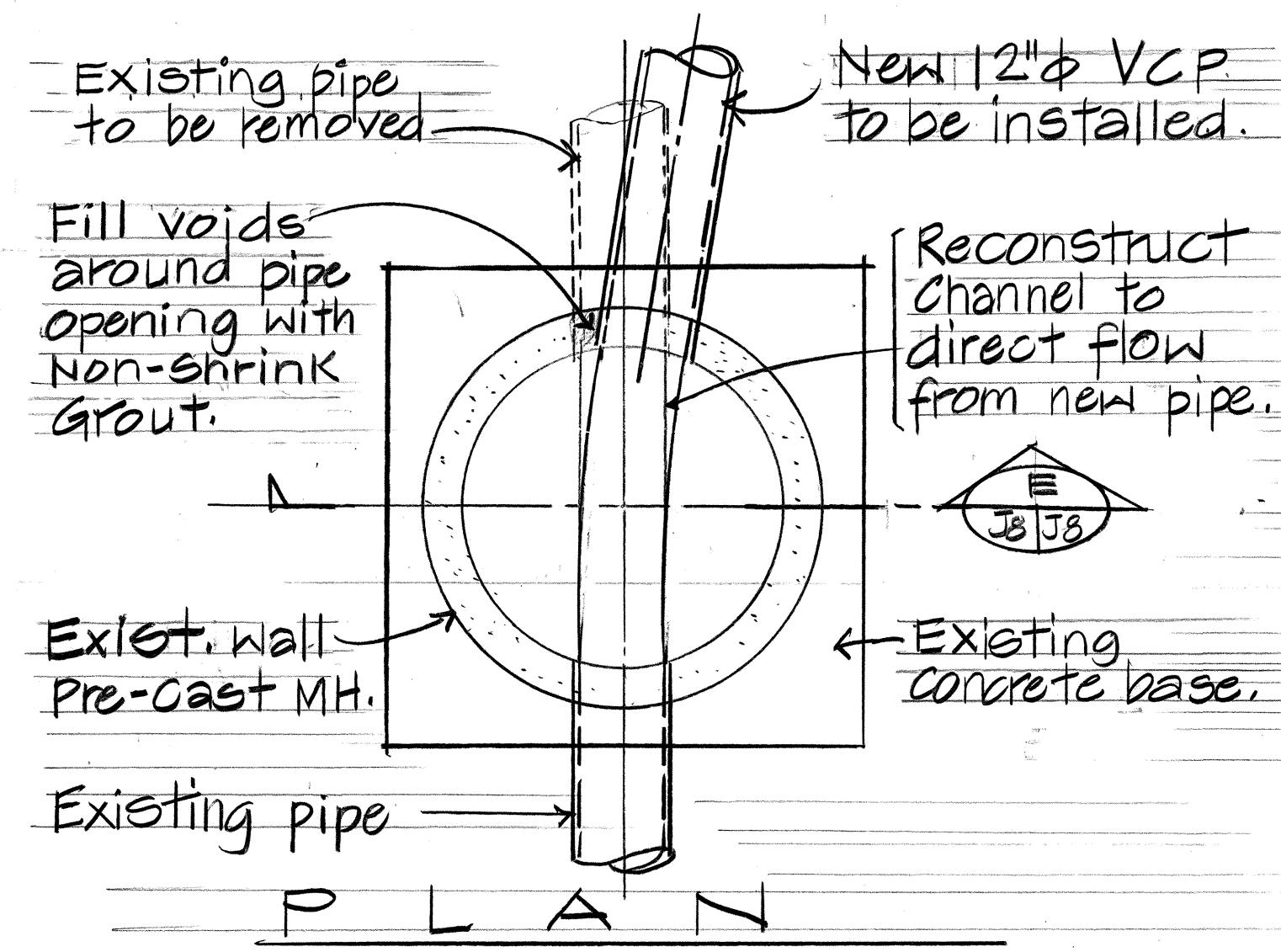
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|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-F-019-2(27)     | 1987        | 38        | 134          |



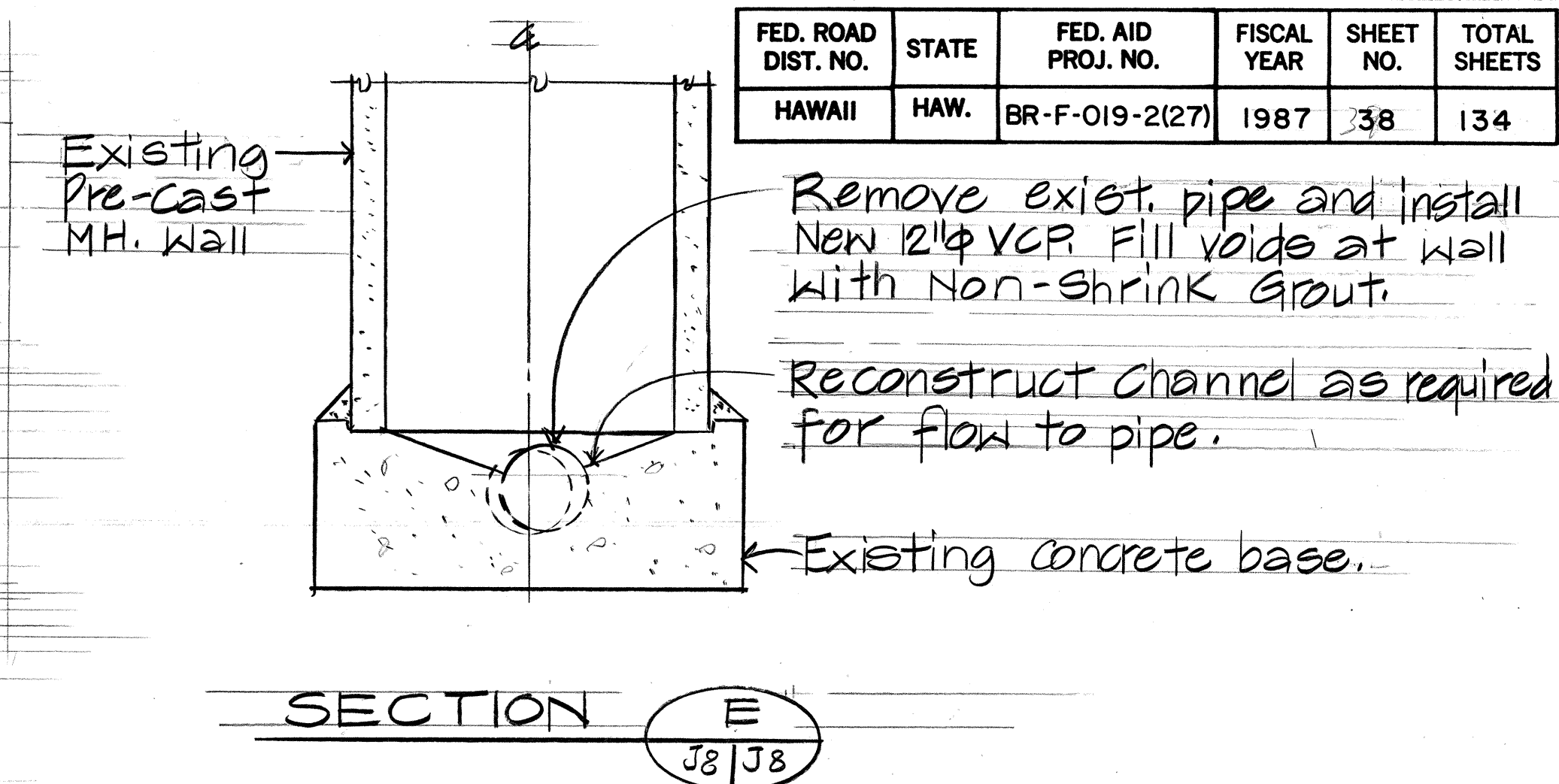
SECTION **B**  
Scale: 3/8" = 1'-0" J8/J8  
REACTION BLOCK AT 1/8 BEND  
BELL DETAIL  
J4 J3 J8



PLUG DETAIL **F**  
N.T.S. J8/J8

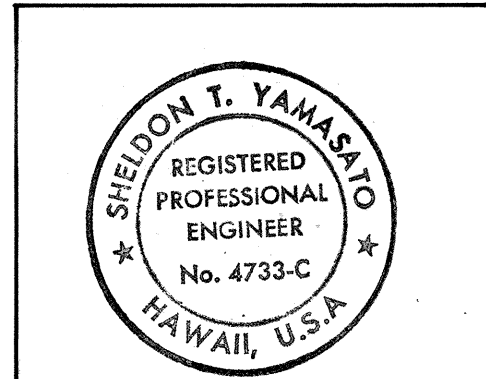


NEW 12" V.C.P. AT EXISTING M.H. DETAIL **D**  
Not to scale. J1, J4 J6 J8



SECTION **E**  
J8/J8

|               |      |
|---------------|------|
| ORIGINAL PLAN | DATE |
| DRAWN BY      |      |
| DESIGNED BY   |      |
| CHECKED BY    |      |
| NOTED BY      |      |
| NO.           |      |



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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SEWER DETAILS**

HAWAII BELT ROAD/KAMEHAMEHA AVENUE  
Wailoa Bridge Replacement And Approaches

FEDERAL AID PROJECT NO. BR-F-019-2(27)  
SCALE: AS NOTED DATE: SEPT, 1986

SHEET NO. J8 OF 8 SHEETS

|        |                      |
|--------|----------------------|
| 9/1/89 | Revised Reinf. Bars. |
| DATE   | REVISION             |